HITACHI
SERVICE MANUAL

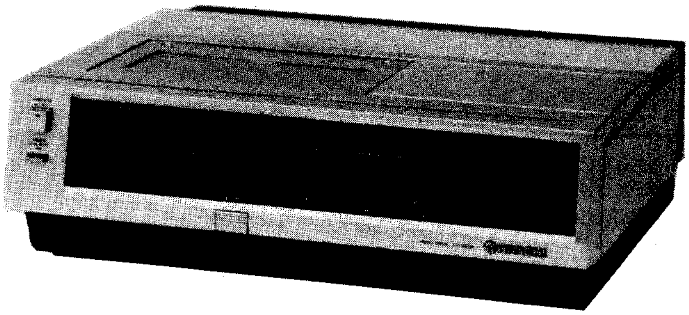
TK

No. 1700E

VT-9500E, E(BS)

Technical Data

VT-9500E(BS)



VT-9500E

VHS

THIS VIDEO DECK IS A VHS TYPE VIDEO RECORDER.
FOR PROPER OPERATION, ONLY THE VHS TYPE CASSETTE MUST BE USED.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

March 1982 **TOKAI WORKS**

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LIST OF DIFFERENCES

FEATURE	VT-9500E	VT-9300E
TIMER	3-programme/10-day (IC101 : HD38800A57)	1-programme/10-day (IC101 : HD38750A51)
PROGRAMME SELECTOR	Electrical (IC721 : μPD1363)	Mechanical
DISPLAY	Independent clock-counter type	Clock-counter changeover type
PAUSE	STILL PAUSE (Slow circuit added)	PAUSE
F. ADVANCE	Possible with remote control	Not provided
A. DUB	Provided	Not provided
REMOTE CONTROL	WIRELESS, 12-MODE	WIRED, 8-MODE
DOLBY NR (For UK)	TYPE B	Not provided
Provisional SECAM circuit (For E)	Provisional	Not provided
DIN Circuit (For E)	Provided	Not provided

SAFETY PRECAUTION

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers' parts.
   Critical parts are marked with ⚠ in the schematic diagrams, and circuit board diagrams.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

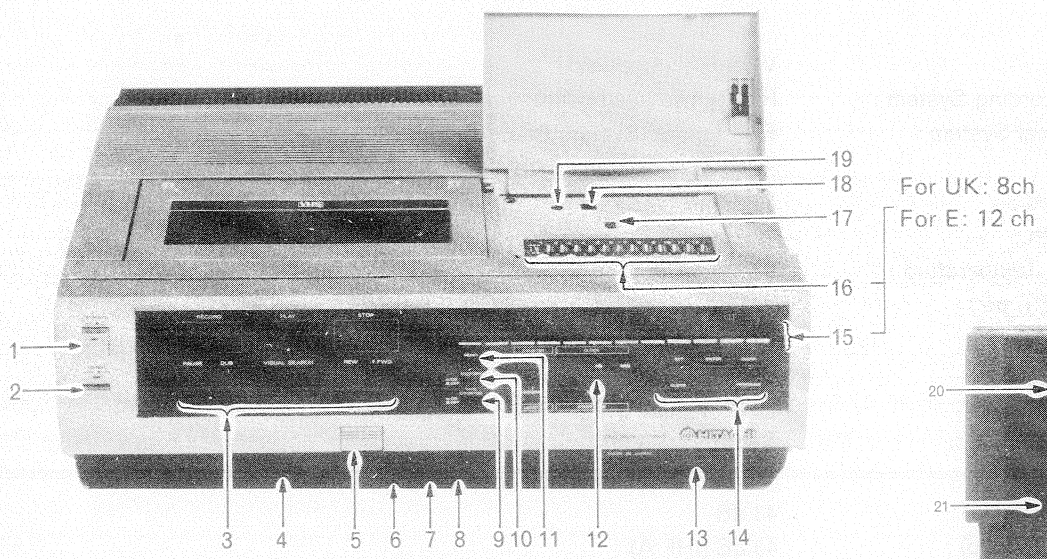
SPECIFICATIONS (For UK model)

Format :	VHS PAL standard
Video Recording System :	Rotary two head helical scan azimuth recording
Video Signal System :	PAL colour (System I) and CCIR monochrome signals 625 lines
Tape Speed :	23.39 mm/sec
Tape Width :	12.7 mm
Operation Temperature :	5°C to 40°C
Recording Time :	240 min (with Hitachi E-240 cassette)
RF Input :	UHF channels 21—69
RF Output :	UHF channel 37 (30 to 39ch adjustable)
Video Input :	0.5—1.5 Vp-p 75 ohms unbalanced
Video Output :	1.0Vp-p 75 ohms unbalanced
S/N Ratio (Video) :	43 dB
S/N Ratio (Audio) :	53 dB (DOLBY NR ON CCIR/ARM) 43 dB (DOLBY NR OFF IHF A)
Horizontal Resolution :	Colour 3 MHz (more than 240 lines)
Audio Input :	−20 dBm/50 kohms
Mic input :	−69 dBm/1 kohms
Audio Output :	−6 dBm/1 kohms
Audio Frequency Range :	70 Hz to 12 kHz
Power Supply :	AC240V 50 Hz
Power Consumption :	40W 12W (Timer and Heater)
Cabinet Size :	435mm (W) × 140mm (H) × 357mm (D)
Weight :	11 kg

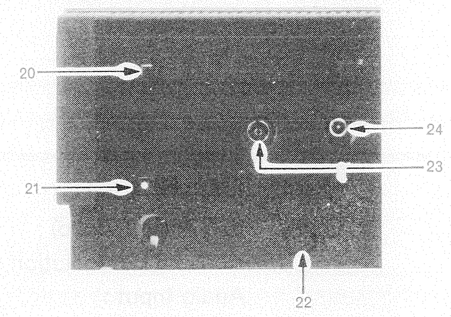
SPECIFICATIONS (Except for UK model)

Format :	VHS PAL standard
Video Recording System :	Rotary two head helical scan azimuth recording
Video Signal System :	PAL colour (System B and G) and CCIR monochrome signals 625 lines
Tape Speed :	23.39 mm/sec
Tape Width :	12.7 mm
Operation Temperature :	5°C to 40°C
Recording Time :	240 min (with Hitachi E-240 cassette)
RF Input :	UHF channels 21—69 VHF channels 2—12
RF Output :	UHF channel 37 (30 to 39ch adjustable)
Video Input :	0.5—1.5 Vp-p 75 ohms unbalanced
Video Output :	1.0Vp-p 75 ohms unbalanced
S/N Ratio (Video) :	43 dB
S/N Ratio (Audio) :	43 dB (IHF A)
Horizontal Resolution :	Colour 3 MHz (more than 240 lines)
Audio Input :	−20 dBm/50 kohms
Mic input :	−69 dBm/1 kohms
Audio Output :	−6 dBm/1 kohms
Audio Frequency Range :	70 Hz to 12 kHz
Power Supply :	AC220V 50 Hz
Power Consumption :	40W 12W (Timer and Heater)
Cabinet Size :	435mm (W) × 140mm (H) × 357mm (D)
Weight :	11kg

KEY TO ILLUSTRATIONS

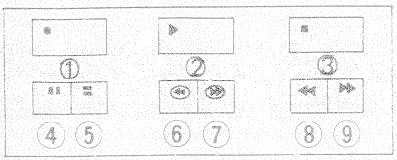

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
For UK: 8ch
For E: 12 ch

[Top view]


20
21
22
23
24

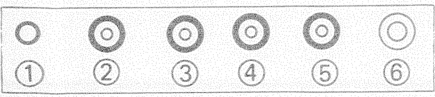
[Rear view]

1. Operate switch
2. Timer switch
3. Operation buttons



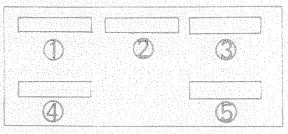
① Record
② Play
③ Stop
④ Still Pause
⑤ Audio dub
⑥ ◀◀ Visual search
⑦ ▶▶ Visual search
⑧ REW
⑨ F.FWD

4. Front jacks



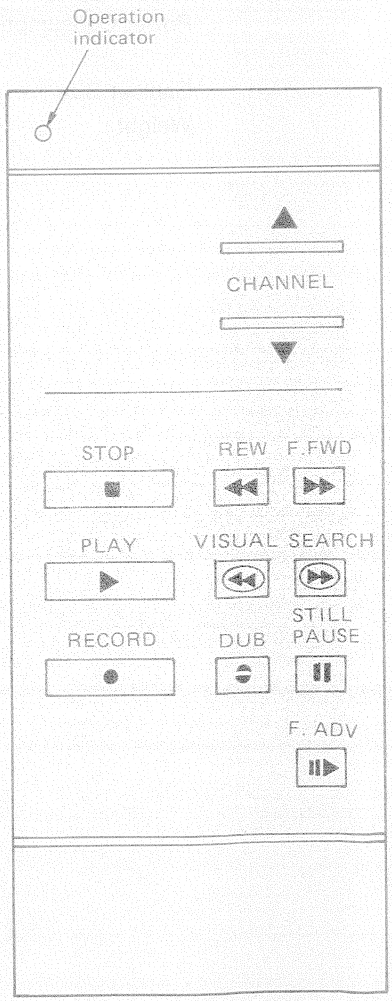
① Pause
② Video input
③ Video output
④ Audio input
⑤ Audio output
⑥ Mic input

5. Eject button
6. Dolby-NR switch (For uk)
   TV/VTR select switch (For E)
7. Tracking knob
8. Still knob (Slow tracking)
9. Tape counter
10. Memory switch
11. Tape counter reset switch
12. Clock/counter display
13. Infrared-ray filter
14. Timer preset buttons



① Set
② Enter (Store)
③ Clear
④ Clock
⑤ Program

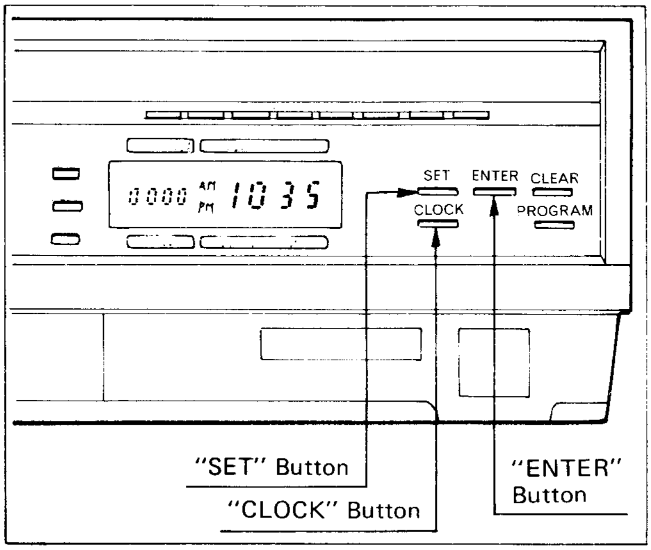
15. Programme select buttons
16. Programme preset controls
17. Dimmer switch
    ▨ Dimmer
    Bright
18. Test signal switch
    ON ▨ OFF
19. RF channel adjuster
20. Mode switch
    AUTO ▨ COLOUR
21. Mains switch
22. DIN connector (For E)
23. Aerial input jack
24. RF output jack


Operation indicator
CHANNEL
STOP
REW
F.FWD
PLAY
VISUAL SEARCH
RECORD
DUB
STILL PAUSE
F. ADV

(REMOTE CONTROL TOP VIEW)

SETTING THE CLOCK (For UK model)

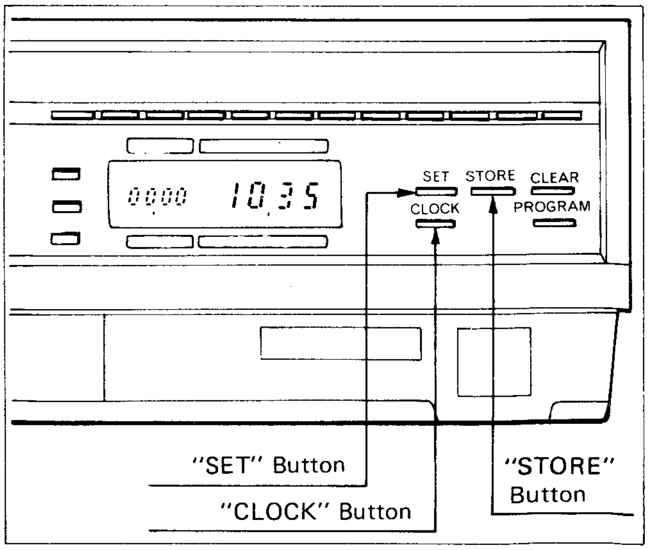
The clock used is of the 12-hour type. The digits on the display flash in sequence to indicate which portion of the clock is to be set next. Set the flashing digit to the correct time. (In the example below, the clock is being set to 10:35 AM)



1. Operate Switch may be in "ON" or "OFF" position.
2. Press and hold "CLOCK" Button while performing 3 through 7.
   AM and PM will flash.
3. Press "SET" once, or until display reads "AM", then press "ENTER".
   This sets the clock to "AM".
   The ten hour digit will flash "0".
4. Press "SET" once or until digit reads "1". Press "ENTER". Hours digit will now flash "0".
5. Press "ENTER" – the "0" will be entered. The ten minutes digit will now flash.
6. Press "SET" three times or until digit reads three (3). Press "ENTER". The minutes digit will now be flashing.
7. Press "SET" five times or until digit reads five (5). Press "ENTER".
8. Release "CLOCK" Button. The time in this example (10.35 AM) should now be displayed.
9. Now set the clock for the present time of day by following the above steps.

SETTING THE CLOCK (Except for UK model)

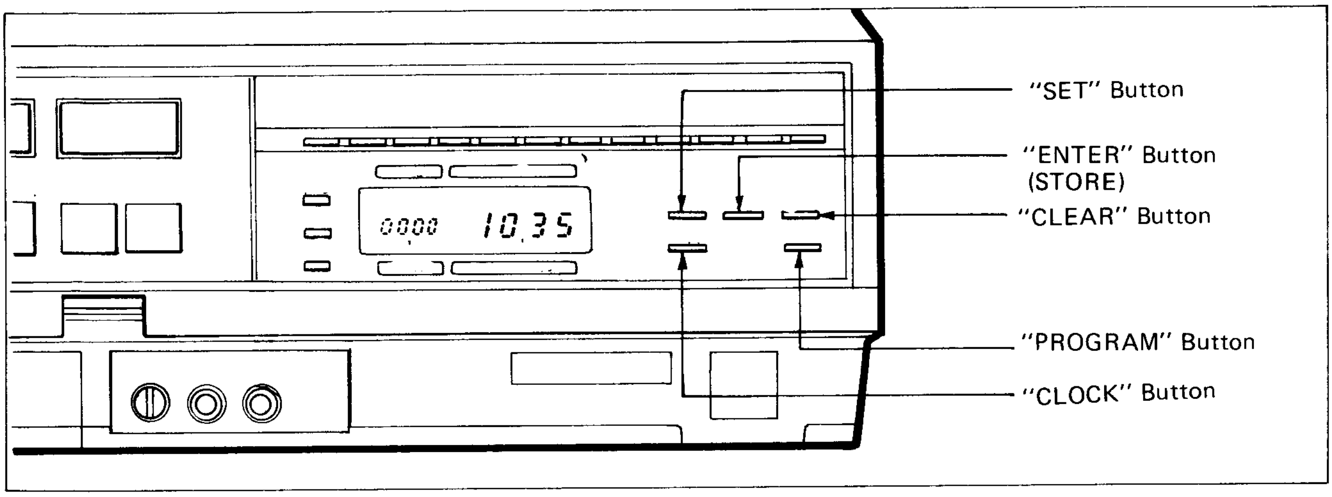
The clock used is of the 24 hour type. The digits on the display flash in sequence to indicate which portion of the clock is to be set next. Set the flashing digit to the correct time. (In the example below, the clock is being set to 10:35)



1. Operate Switch may be in "ON" or "OFF" Position.
2. Press "SET" once, or until digit reads "1". Press "STORE". Hours digit will now flash "0".
3. Press "STORE" – the "0" will be entered. The ten minutes digit will now flash.
4. Press "SET" three times or until digit reads three (3). Press "STORE". The minutes digit will now flash.
5. Press "SET" five times or until digit reads five (5). Press "STORE".
6. Release "CLOCK" Button. The time in this example (10:35) should now be displayed.
7. Now set the clock for the present time of day by following the above steps.

SETTING THE PROGRAMME TIMER

For unattended recording the Timer needs to know what day to make the recording, the time to start, the length of the recording, and the programme to be recorded.
The digits on the Timer display flash in sequence, so programme the correct data to the flahsing digit to set the time.

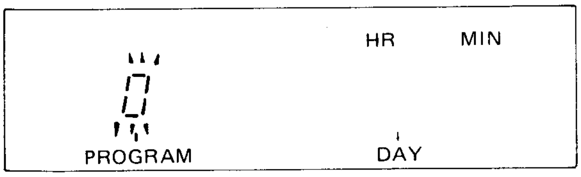


0000 10.35
"SET" Button
"ENTER" Button (STORE)
"CLEAR" Button
"PROGRAM" Button
"CLOCK" Button

NOTE: The clock must be set to the correct time of day before attempting to programme the timer.

Example 1
In the example below, "Programme 2" is being set to record channel 6, on today from 9:15 PM for 1 hour 45 minutes.

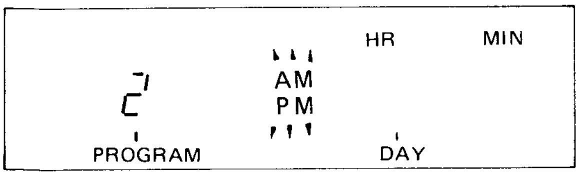
1. Press "PROGRAM".



HR
MIN
0
PROGRAM
DAY

The digit in which the program is to be set will flash.

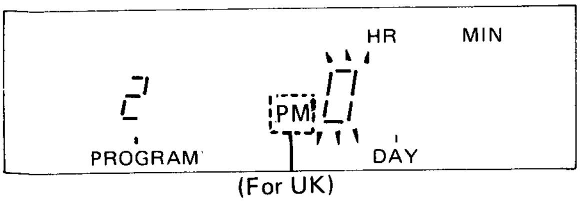
2. Press "SET" twice, then press "ENTER". (For UK model)



HR
MIN
2
AM
PM
PROGRAM
DAY

"Program 2" has been set and "AM", "PM" will flash.

3. Press "SET" twice, then press "ENTER".

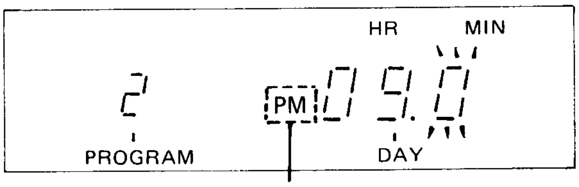


HR
MIN
2
PM
0
PROGRAM
DAY

(For UK)

"PM" has been set and the digit in which the hour to be set will flash.

4. Press "ENTER" to set "0", then press "SET" nine times and press "ENTER" to set "9".

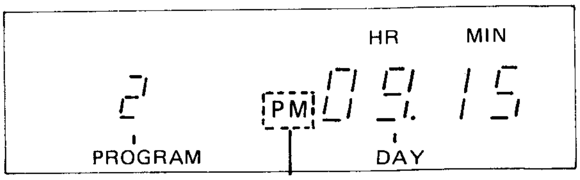


HR
MIN
2
PM
0 9 0
PROGRAM
DAY

(For UK)

"09" has been set and the digit in which the minutes are to be set will flash.

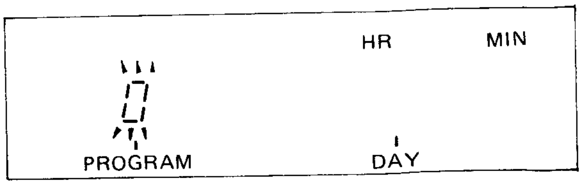
5. Press "SET" once, then press "ENTER" to set "1". Press "SET" five times, then press "ENTER" to set "5".



HR
MIN
2
PM
0 9 1 5
PROGRAM
DAY

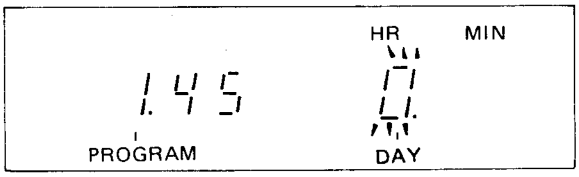
(For UK)

"15" has been set and the digit in which the recording length is to be set will flash.



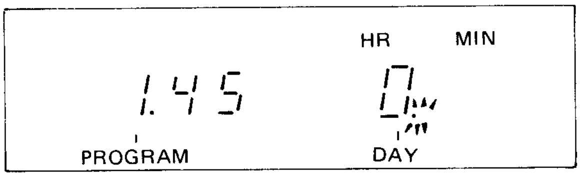
HR
MIN
0
PROGRAM
DAY

6. Press "SET" once, then press "ENTER" to set "1" (1 hour). Press "SET" four times, then press "ENTER" to set "4". Press "SET" five times, then press "ENTER" to set "5".



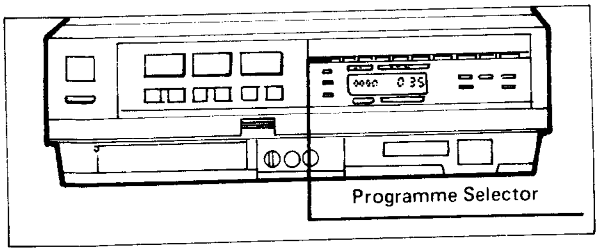
"1:45" has been set and the digit in which the day is to be set will flash.

7. Press "ENTER" to set today (0).

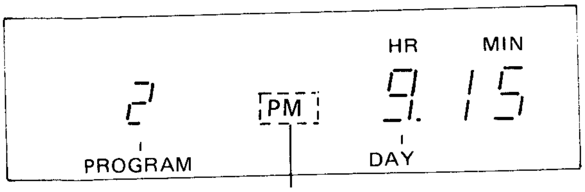


NOTE: "0" means today
"1" means tomorrow
"2'. means the day after tomorrow
≀ ≀
"9" means 9 days after today
"E d" means every day

8. Press programme selectors (on the front of your VTR) you wish to record.

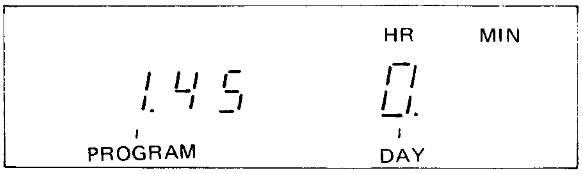


The Timer display will change as shown to indicate "PROGRAMME No. 2". "START TIME = 9:15"

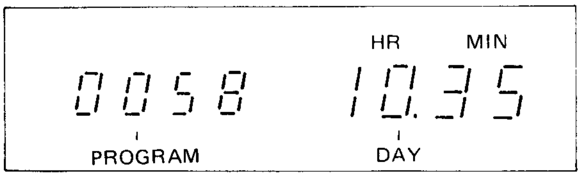


(For UK)

And after about 4 seconds, the display will change to indicate "OPERATION LENGTH = 1:45, DAY = today".



After about 4 seconds, the display will change to the present time.



NOTE:

- If you make a mistake while programming, push the "CLEAR" Button to erase the programme and then start over again.
- After you select a programme to be set, if you find a programme already displayed (one you no longer desire to use), push the "CLEAR" Button to erase it and then start over again.
- This timer can be set for up to three programmes. If you try to enter a programme higher than 3 (4 – 9), it will not be entered. "0" will flash and you must set a correct programme (1 – 3).
  This also applies to the 10 hour digit and to the 10 minute digit. The 10 hour digit can only be 0 or 1, the 10 minute digit can only be 0 – 5.
- When the pre-set time of 2 programmes overlap, for example
  Programme 1 Today AM 10:00
  – AM 11:30 programme 3
  Programme 2 Today AM 11:00
  – PM 1:00 programme 6
  Programme No. 2 will not be memorized and an error indication "Err " will be displayed.
- After the display has returned to clock, push the "PROGRAM" Button and select programme 2 again and enter a correct programme (one that does not overlap other programmes).

DISMANTLING

1. Main mechanical parts locations

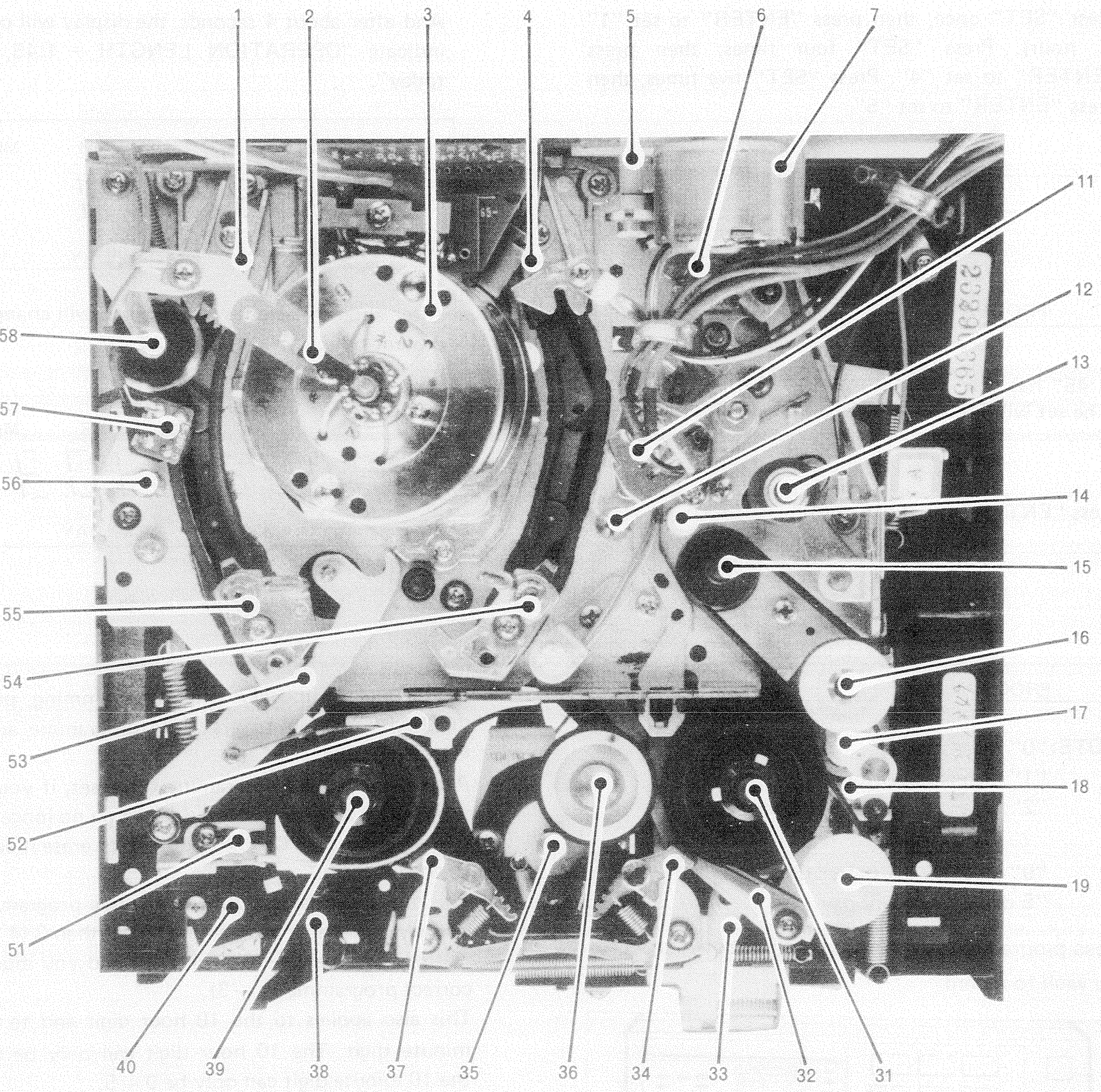


Fig. 1

1. CATCHER (SUPPLY)
2. CYLINDER MOTOR GND (EARTH) PIECE
3. CYLINDER
4. CATCHER (TAKE-UP)
5. BRAKE PULLEY
6. BRAKE OPERATION MECHANISM
7. LOADING
11. AC HEAD (AUDIO/CONTROL HEAD)
12. X VALUE ADJUSTMENT SCREW
13. PRESSURE ROLLER
14. GUIDE POLE (TAKE-UP)
15. CAPSTAN
16. TAKE-UP PULLEY
17. PLAY IDLER
18. TAKE-UP BRAKE
19. COUNTER PULLEY
31. REEL DISK (TAKE-UP)
32. FF/REW IDLER RELEASE LEVER
33. EJECT PREVENTION TAB.
34. MAIN BRAKE (TAKE-UP)
35. REEL MOTOR PULLEY
36. FF/REW IDLER
37. MAIN BRAKE (SUPPLY)
38. SAFETY TAB LEVER
39. REEL DISK (SUPPLY)
40. SAFETY TAB SWITCH
51. TENSION BAND
52. SUPPLY BRAKE
53. TENSION ARM
54. GUIDE ROLLER BASE (TAKE-UP)
55. GUIDE ROLLER BASE (SUPPLY)
56. GUIDE POLE (SUPPLY)
57. FE HEAD (FULL ERASE HEAD)
58. IMPEDANCE ROLLER (SUPPLY)

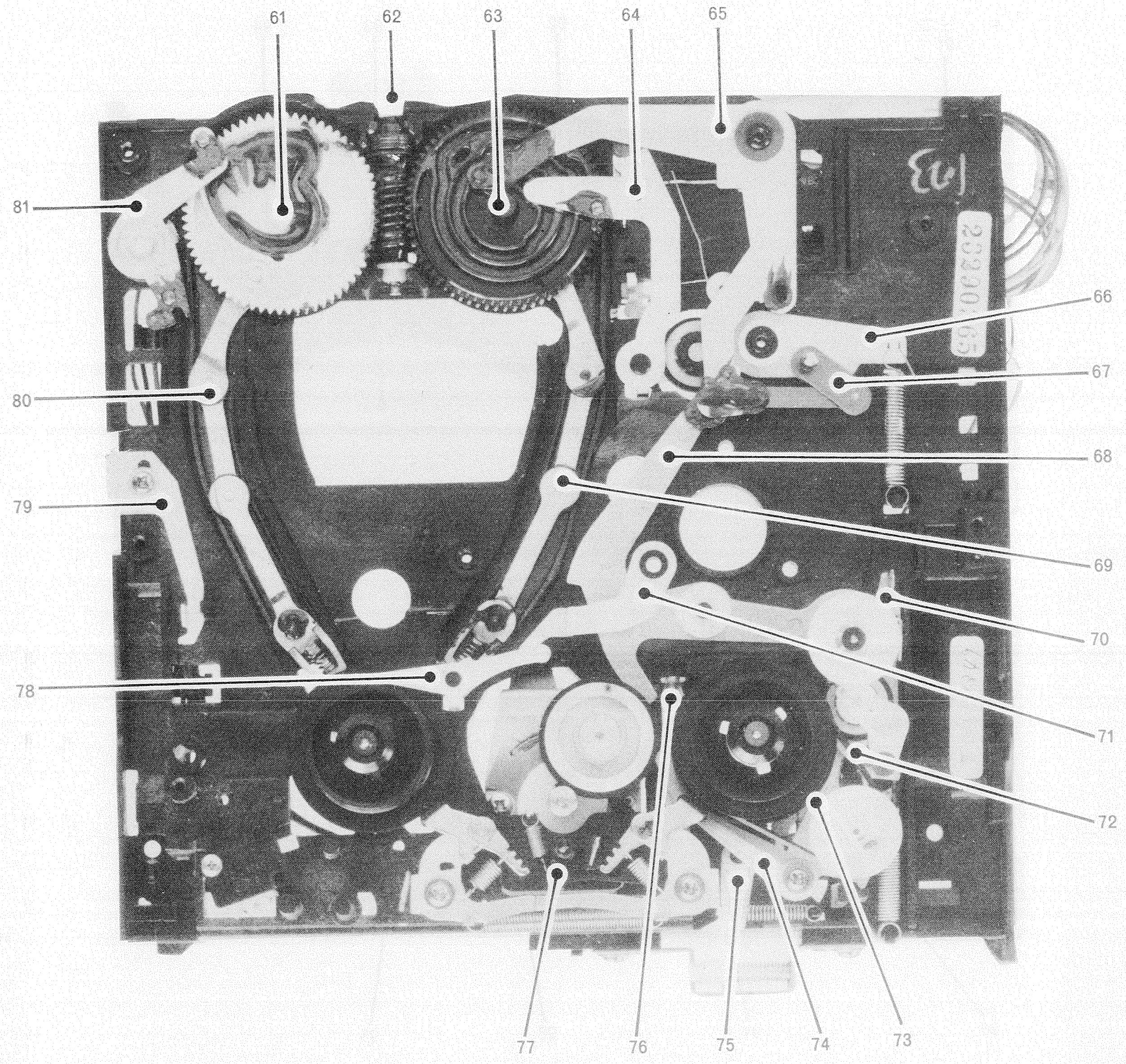


Fig. 2

61. LOADING GEAR (SUPPLY)
62. WORM GEAR PULLEY
63. LOADING GEAR (TAKE-UP)
64. SWITCH (STATE SENSOR) OPERATION ARM
65. DRIVE ARM A.
66. PRESSURE ROLLER COMPRESSION ARM
67. PRESSURE ROLLER DRIVE LINK
68. DRIVE ARM B.
69. THREE-CONNECTION LINK (TAKE-UP)
70. OPERATION SLIDER B.
71. SUPPLY BRAKE OPERATION ARM
72. TAKE-UP BRAKE
73. OPERATION SLIDER A
74. FF/REW IDLER RELEASE LEVER
75. EJECT PREVENTIVE TAB
76. MAIN BRAKE OPERATION SLIDER
77. MAIN BRAKE OPERATION ARM
78. SUPPLY BRAKE
79. TENSION SPRING HOLDER
80. THREE-CONNECTION LINK (SUPPLY)
81. IMPEDANCE ROLLER DRIVE ARM

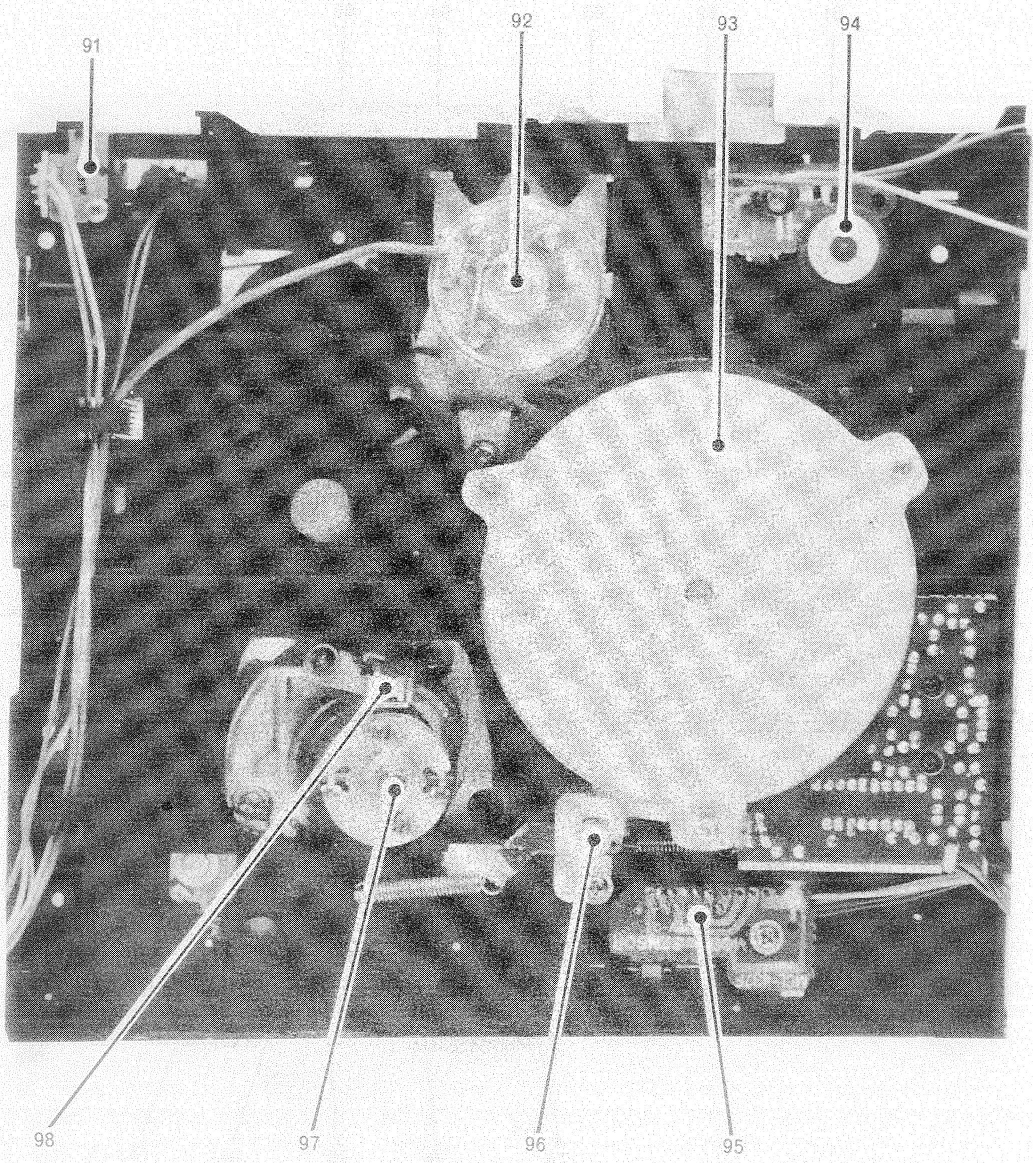

91
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Fig. 3

91. CASSETTE HOLDER SWITCH
92. REEL MOTOR
93. CAPSTAN MOTOR
94. REEL SENSOR MAGNET
95. MECHANICAL STATE SENSOR SWITCH
96. SLOW BRAKE
97. CYLINDER MOTOR
98. CYLINDER TACH HEAD

2. PC Board locations

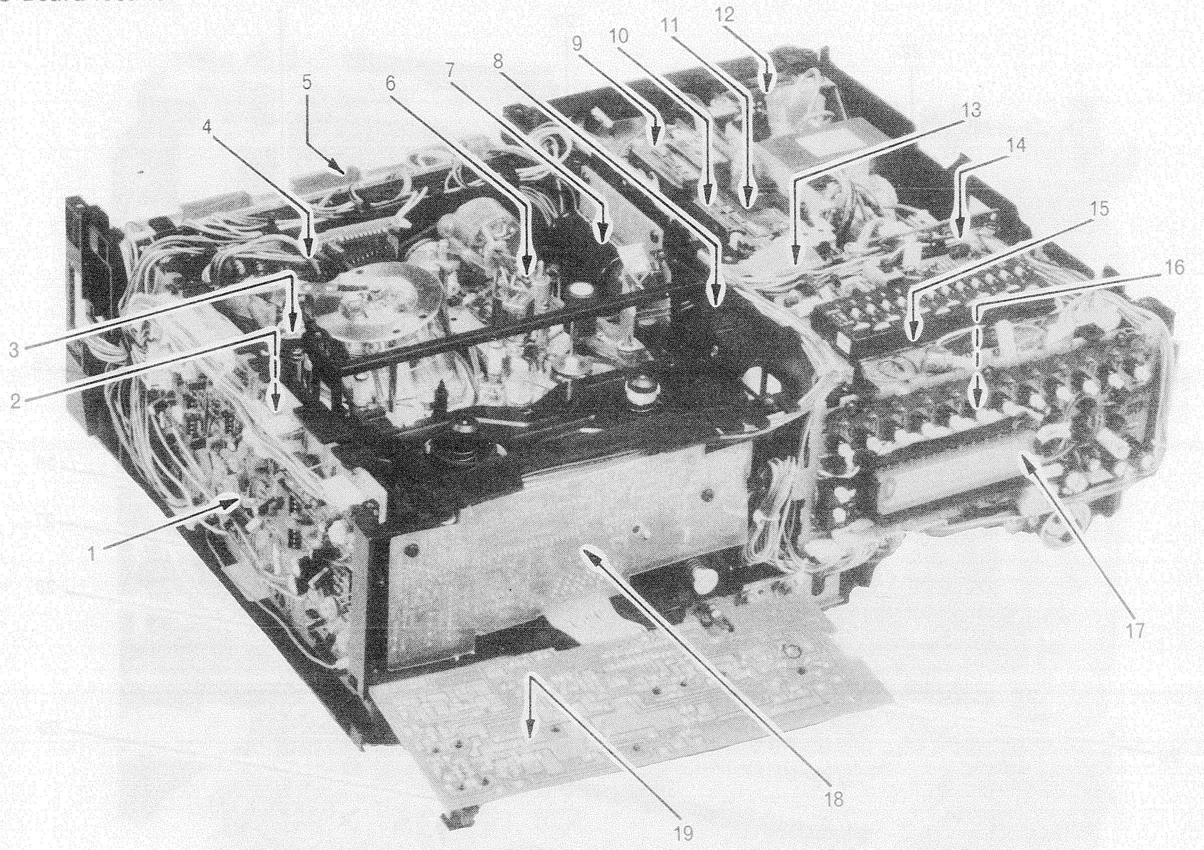
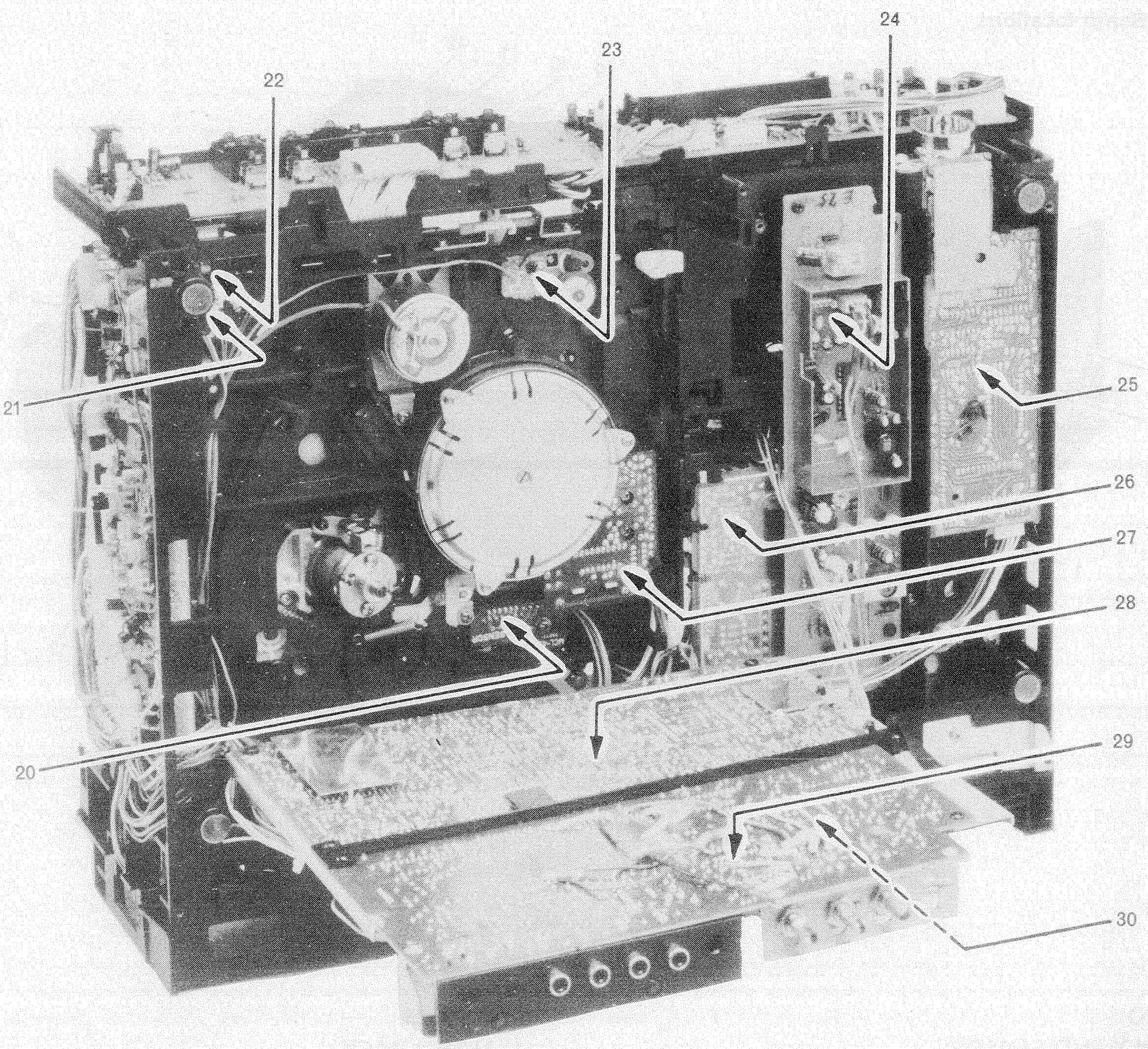


Fig. 4

1. SERVO
2. SUPPLY END SENSOR
3. FULL ERASE HEAD
4. CYLINDER MOTOR DRIVER
5. SYSTEM CONTROL
6. AUDIO/CONTROL HEAD
7. REGULATOR (For E)
8. TAKE-UP END SENSOR
9. RF BOOSTER
10. IF PACK
11. TUNER PACK
12. REAR SWITCH
13. RF CONVERTER
14. RECTIFIER
15. PROGRAMME PRESET
16. BACK-UP
17. TIMER
18. FUNCTION CONTROL
19. FRONT SWITCH


24
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29
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Fig. 5

20. MECHA STATE SENSOR
21. CASSETTE HOLDER SWITCH
22. SAFETY TAB
23. REEL SENSOR
24. AUDIO
25. REMOTE CONTROL (RX)
26. TUNER/IF
27. CAPSTAN MOTOR
28. Y/CHROMA
29. SLOW PLAY/JACK
30. DIN (For E)

3. REMOVING THE CASE

1. Top panel (Fig. 6)

1) Open the timer pre-set cover and cassette compartment.
2) 4 screws.

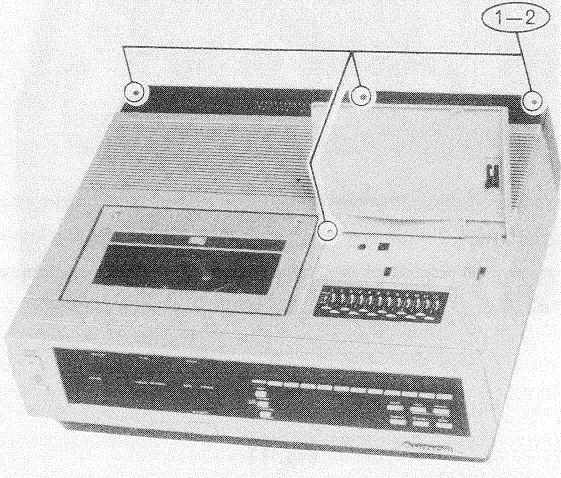


Fig. 6

2. Bottom cover (Fig. 7)

1) 7 screws.

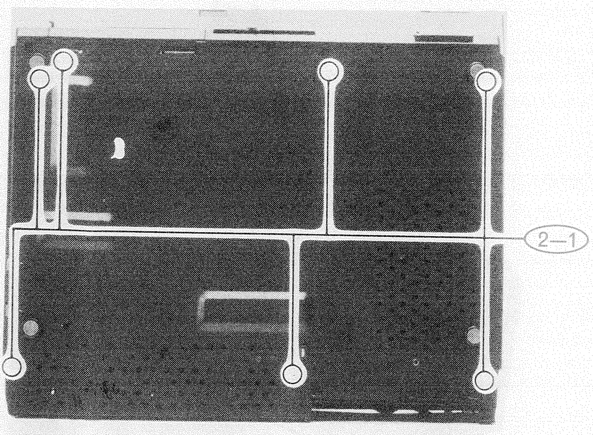


Fig. 7

3. Front panel

1) Top panel (Fig. 6).
2) 3 screws (Fig. 8).
3) Remove the 3 knobs.
4) 3 screws (Fig. 9).

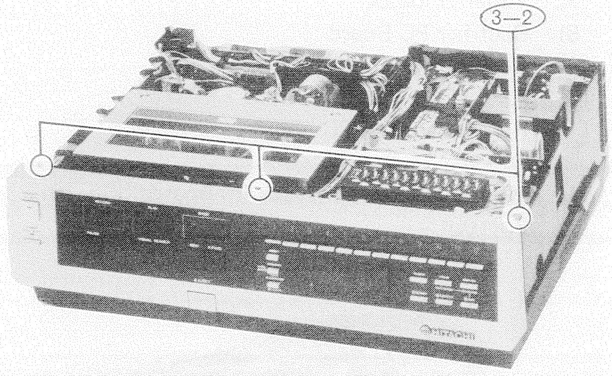


Fig. 8

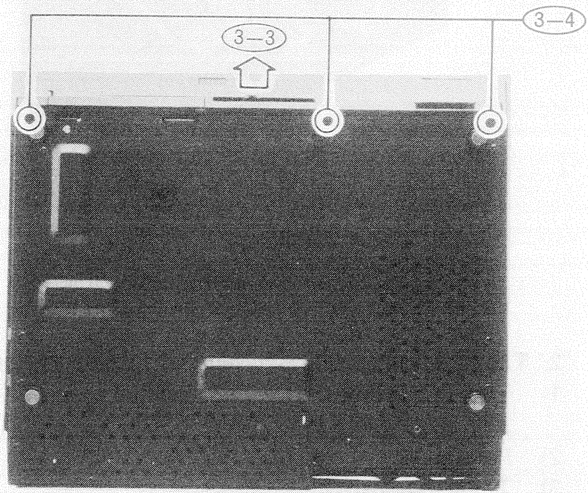


Fig. 9

4. REMOVING THE PC BOARDS

1) Y/Chroma, Slow play/Jack PC Boards
2) Timer, Programme preset, Back-up PC Boards
3) Front switch PC Board
4) Function control PC Board
5) Servo PC Board
6) System control PC Board
7) Tuner/IF block
8) Rectifier PC Board
9) Regulator PC Board
10) Audio PC Board
11) Remote control PC Board

1. Y/Chroma, Slow play/Jack PC Boards (Fig. 10)

1) 2 screws

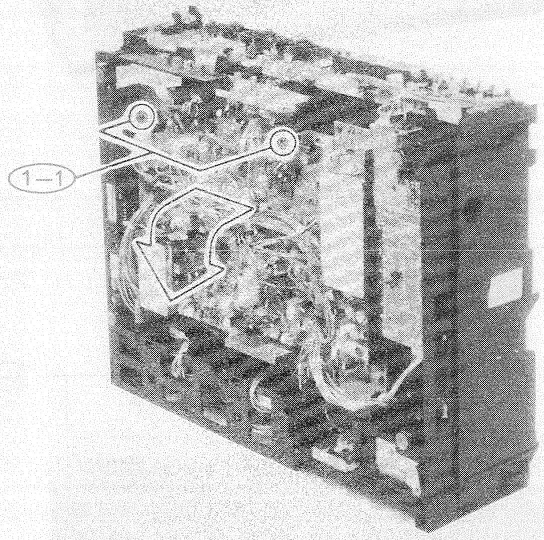


Fig. 10

2. Timer, Programme preset, Back-up PC Boards (Fig. 11)

1) Timer/Programme preset bracket
   3 screws
2) Pull out
3) Timer PC Board
   3 stoppers
4) Programme Preset PC Board
   2 stoppers
5) Back-up PC Board
   3 stoppers
   (Located at the back of Timer/Programme preset bracket)

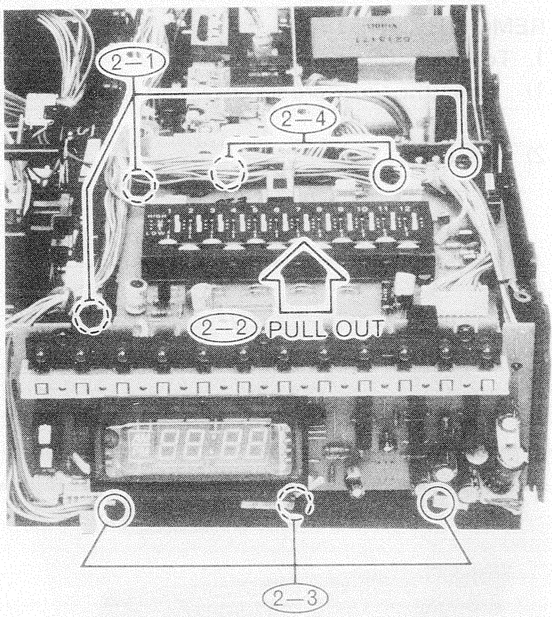


Fig. 11

3. Front switch PC Board (Fig. 12)

1) 2 stoppers

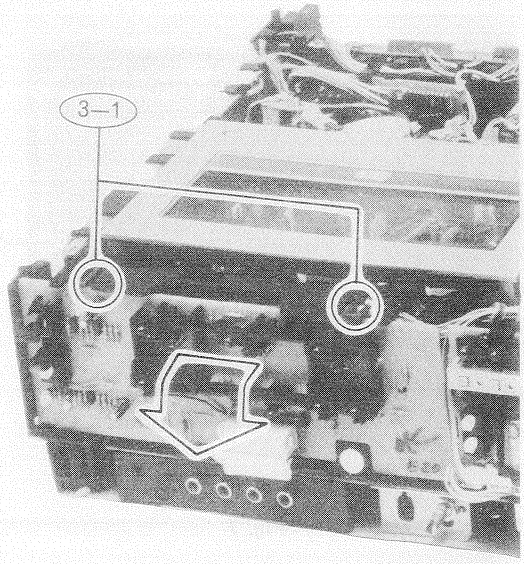


Fig. 12

4. **Function control PC Board (Fig. 13)**
1) 2 screws

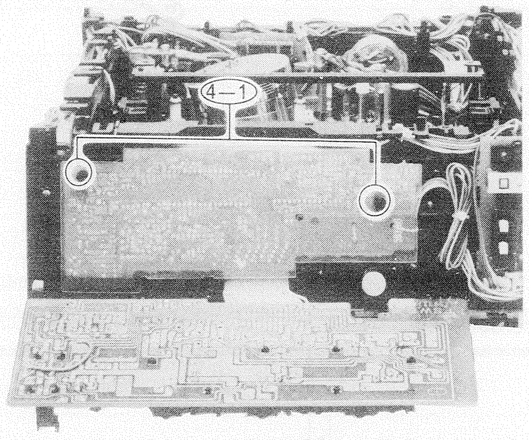


Fig. 13

5. **Servo PC Board (Fig. 14)**
1) 3 stoppers

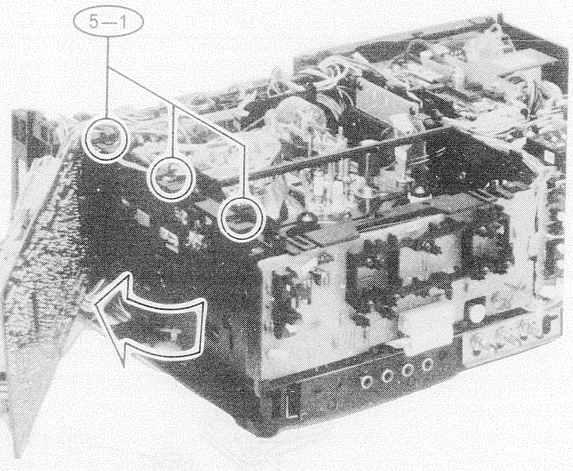


Fig. 14

6. **System control PC Board (Fig. 15)**
1) 4 stoppers

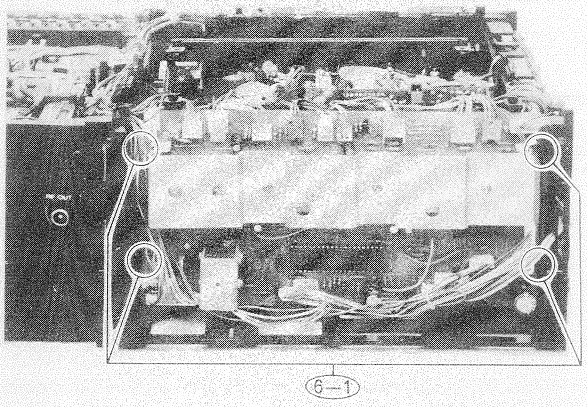


Fig. 15

7. **Tuner/IF block (Fig. 16)**
1) 2 screws.
2) 2 screws.

8. **Rectifier PC Board (Fig. 16)**
1) Pull out

9. **Regulator PC Board (Fig. 16)**
1) 1 screw

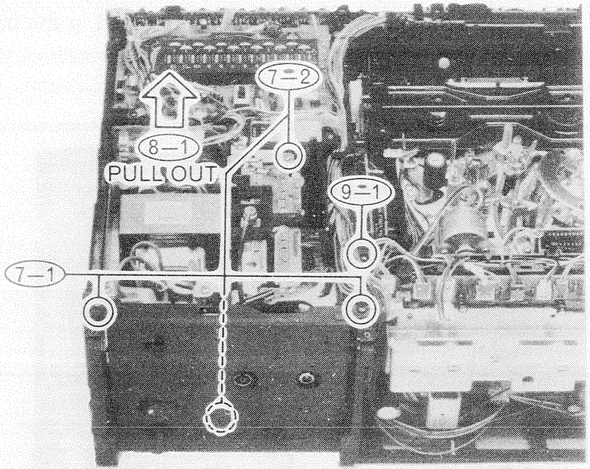


Fig. 16

10. **Audio PC Board (Fig. 17)**
1) 3 screws

11. **Remote control PC Board (Fig. 17)**
1) 1 screw

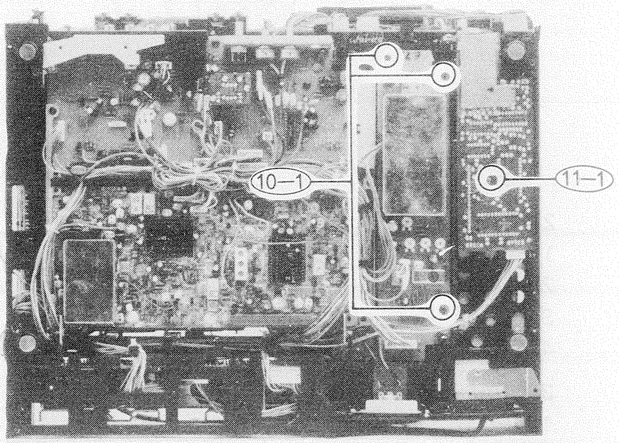


Fig. 17

5. REMOVING THE MAIN ELECTRICAL PARTS

1) Upper cylinder
2) Full erase head
3) Audio control head

1. Upper cylinder

1) Remove the cylinder motor GND piece
   1 screw (Fig. 18)
2) Unsolder 4 leads (Fig. 19)
3) 2 screws (Fig. 19)

Note:
Do not touch the video heads (located in the base of upper cylinder) during servicing.

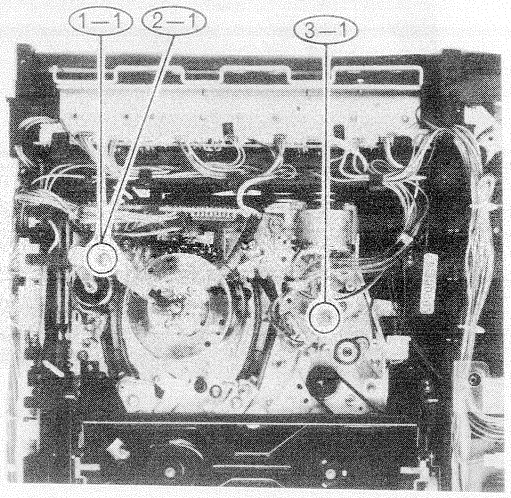


Fig. 18

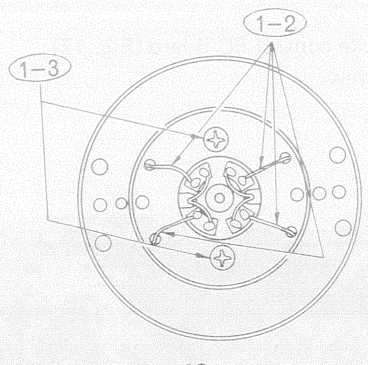


Fig. 19

2. Full erase head

1) 1 screw (Fig. 18)
2) FE head arm (Fig. 20)
3) 2 screws (Fig. 20)
4) Unsolder 2 leads (Fig. 20)

3. Audio control head

1) 1 nut (Fig. 18)
2) 2 screws (Fig. 21)
3) Unsolder 2 leads(Fig. 21)

Note:
Replace with a new A/C head. It is necessary to adjust head height, angle, X value etc.

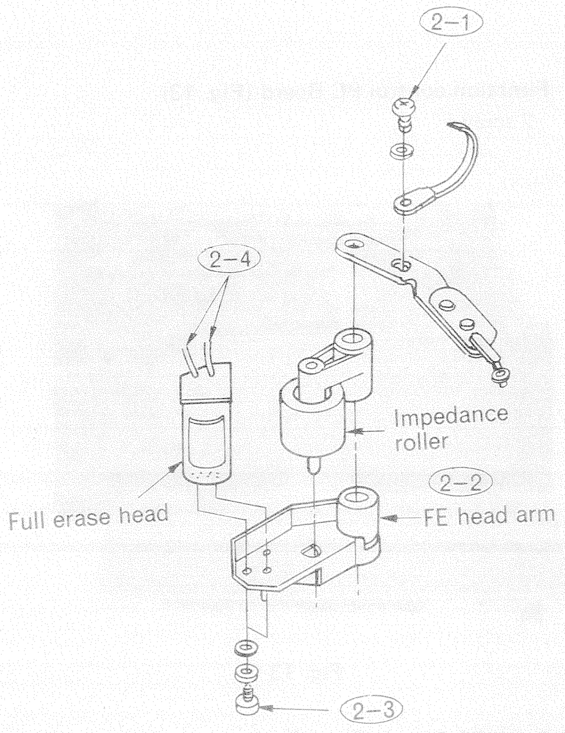

2–1
2–4
Impedance roller
Full erase head
2–2
FE head arm
2–3

Fig. 20

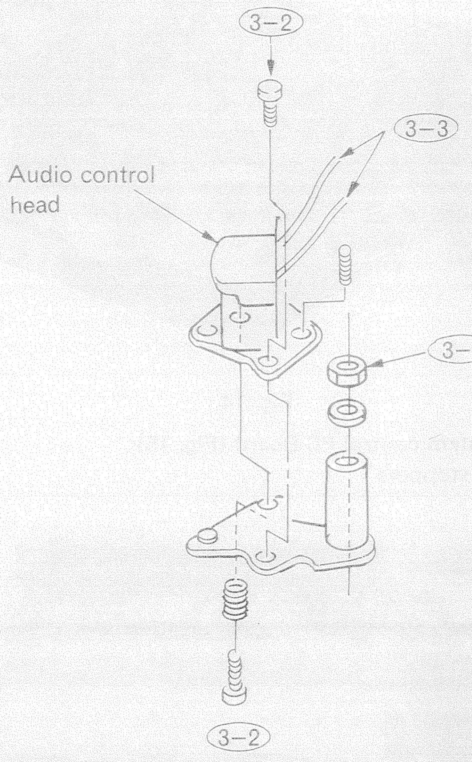

3–2
3–3
Audio control head
3–1
3–2

Fig. 21

6. REMOVING THE MAIN MECHANICAL PARTS

1) Cassette holder
2) Main chassis

Motors

3) Cylinder motor
4) Capstan motor
5) Reel motor
6) Loading motor

Pulleys, etc.

7) FF/REW idler
8) Impedance roller
9) Pressure roller
10) Take-up pulley
11) Play idler
12) Take-up supply reel disc assembly

Others

13) Tension arm/tension band
14) Sub chassis
15) Loading gear

1. Cassette holder (Fig. 22)

1) Lift up the Cassette holder.
2) Remove the safety tab switch lever.
3) 2 screws

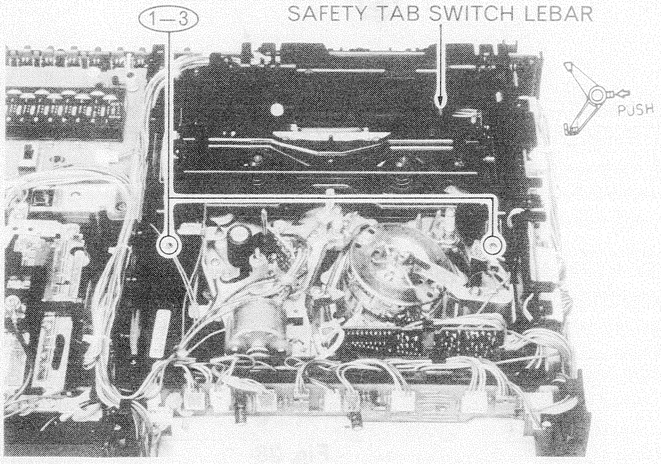


Fig. 22

2. Main chassis (Fig. 23)

1) Remove the servo PC Board (Fig. 14 (5—1))
2) Remove the system control PC Board (Fig. 15 (6—1))
3) Remove the time/programme preset bracket Fig. 11 (2—1))
4) 3 screws

3. Cylinder motor (Fig. 24)

1) Remove the cylinder motor GND piece (Fig. 23)
2) 3 screws (Fig. 24)

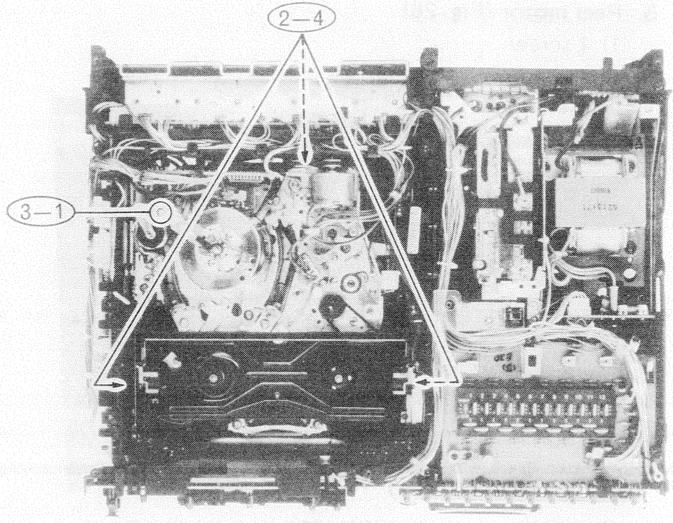


Fig. 23

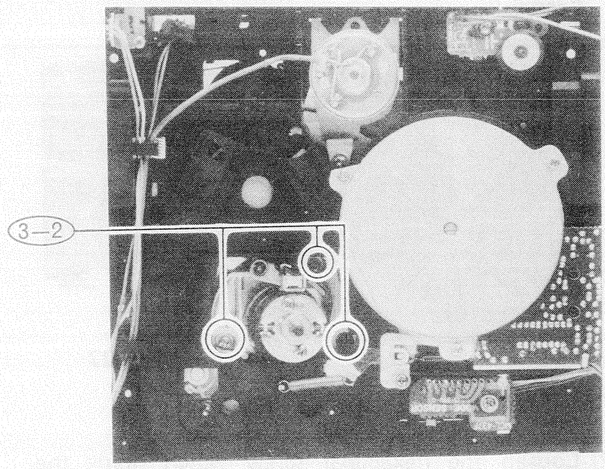


Fig. 24

4. Capstan motor (Fig. 25)

1) Remove the belt.
2) 3 screws.

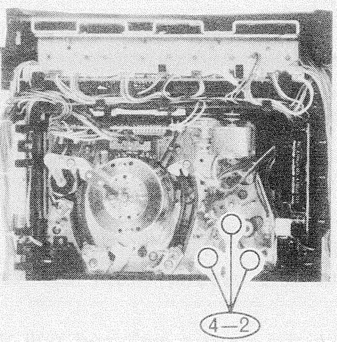


Fig. 25

5. **Reel motor (Fig. 26)**
   1) 1 screw

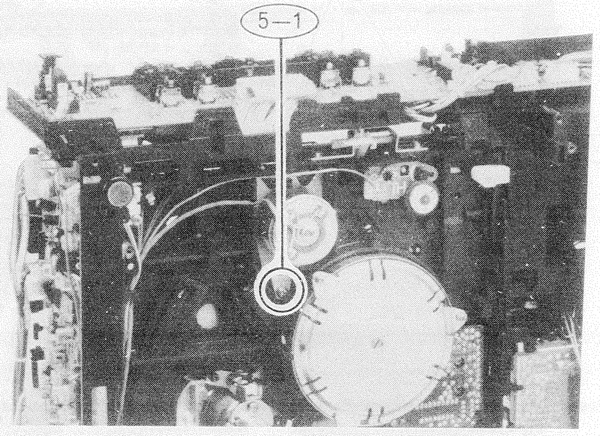


Fig. 26

6. **Loading motor (Fig. 27)**
   1) Remove the system control PC Board (Fig. 15 (6—1))
   2) Remove the loading motor bracket
      1 screw
   3) 2 screws

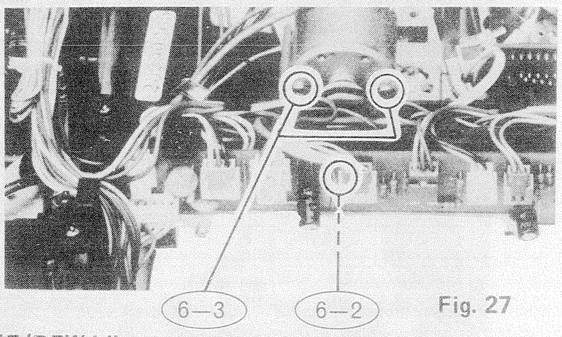


Fig. 27

7. **FF/REW idler**
   1) Remove the reel motor.
   2) Loosen the hexagonal screw which holds the motor shaft.

8. **Impedance roller**
   1) Remove the reinforcement plate, and pull the roller out from the shaft.
      Make sure that the roller shaft enters the U-groove of the impedance roller operation arm during assembly.

9. **Pressure roller**
   1) Remove one screw inside the pressure roller.
      Assemble the pressure roller with the section provided with the plastic inner wheel at the top.

10. **Take-up pulley**
    1) Remove the washer from the take-up pulley shaft.
    2) Remove the capstan belt and pull the pulley out of the chassis.

11. **Play idler**
    1) Remove the take-up pulley.
    2) Remove the washer from the play idler ass'y shaft.
    3) Remove the spring between the play idler ass'y and the sub. chassis.

    Check that the take-up brake shaft enters the groove just before the operation slider B, and that the play idler shaft enters the front groove during assembly.

12. **Take up/supply reel disc assembly (Fig. 28)**
    1) Remove stop washer.

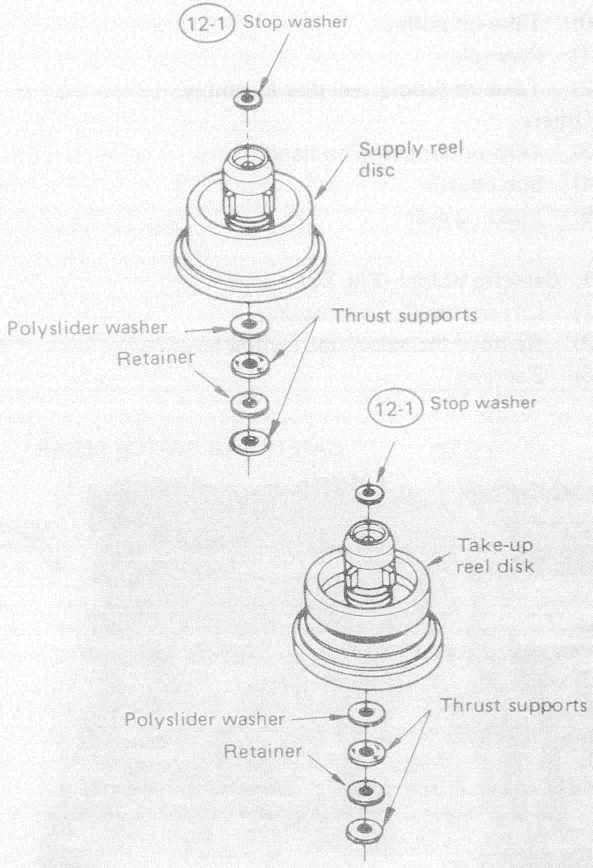

(12-1) Stop washer
Supply reel disc
Polyslider washer
Retainer
Thrust supports
(12-1) Stop washer
Take-up reel disk
Polyslider washer
Retainer
Thrust supports

Fig. 28

13. **Tension arm/tension band (Fig. 29)**
    1) Remove the spring between the sub. chassis and the tension arm.
    2) Remove the tension arm clamp screw.
    3) Remove the band holder fixing screw.

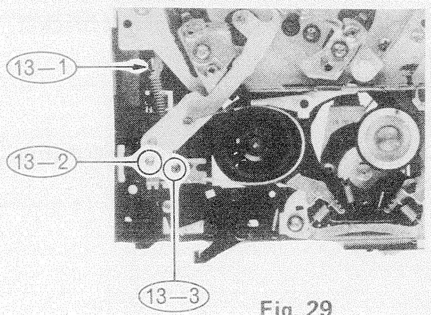


Fig. 29

14. **Sub. chassis. (Fig. 30, 31)**
    1) Remove the cassette holder.
    2) Remove the loading motor.
    3) Remove the cylinder base (to protect the video heads).
    4) Remove the capstan motor.
    5) Remove the tension arm.
    6) Remove 2 springs.
    7) Remove 4 screws.

    6 positions shown in Fig. 31 engage with the parts attached to the sub-chassis; install the sub-chassis while checking this.

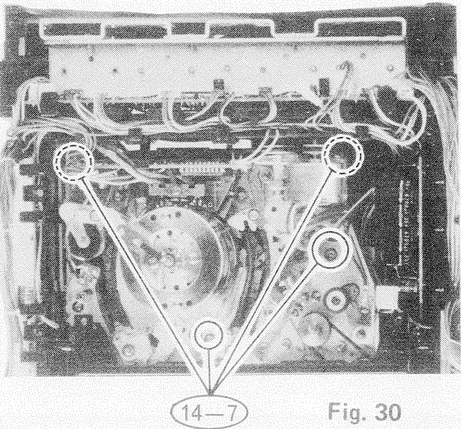


Fig. 30

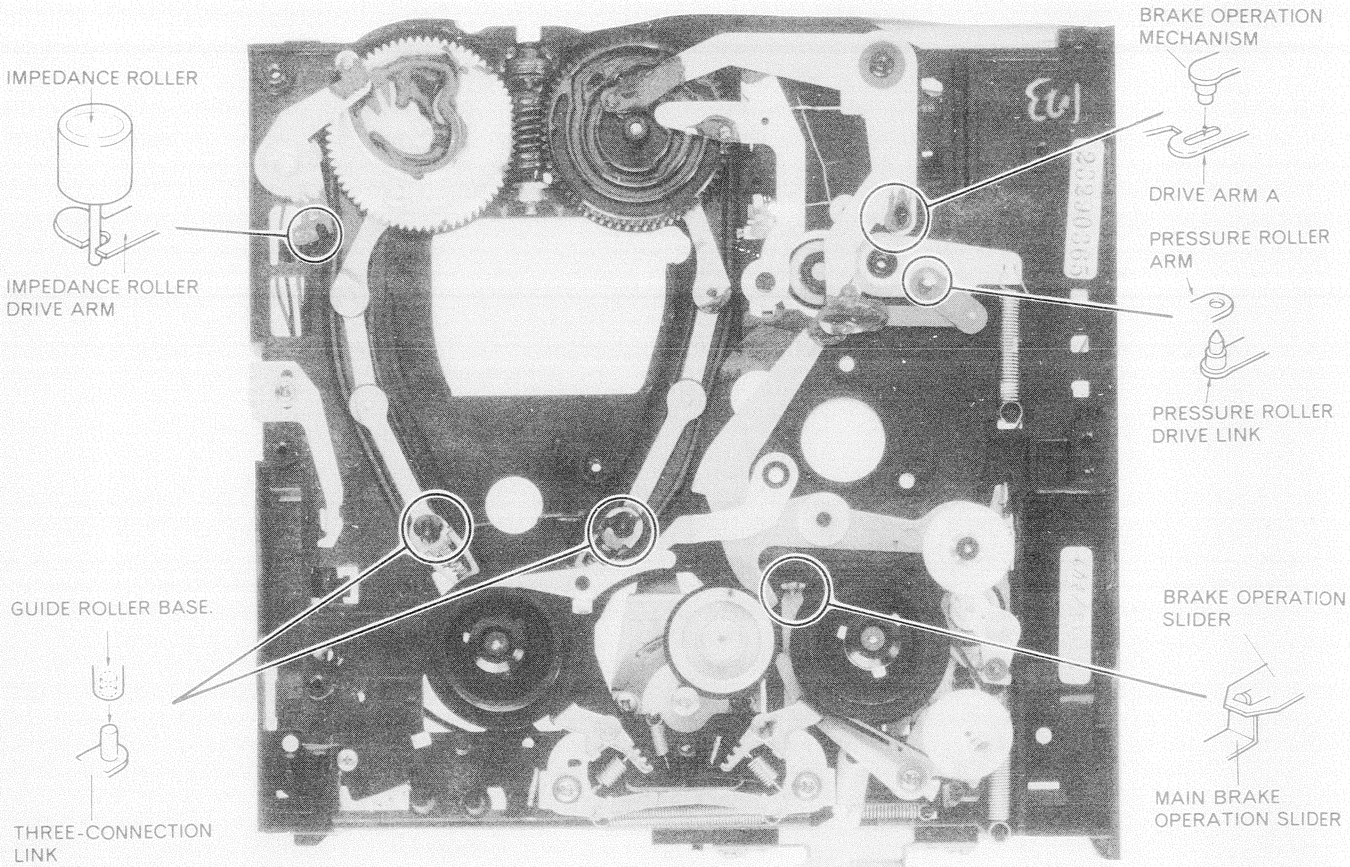

BRAKE OPERATION MECHANISM
IMPEDANCE ROLLER
DRIVE ARM A
PRESSURE ROLLER ARM
IMPEDANCE ROLLER DRIVE ARM
PRESSURE ROLLER DRIVE LINK
GUIDE ROLLER BASE
BRAKE OPERATION SLIDER
MAIN BRAKE OPERATION SLIDER
THREE-CONNECTION LINK

Fig. 31

15. **Loading gear (Fig. 32)**
    1) Set the mechanism to the unloading complete condition.
    2) Remove the sub. chassis.
    3) Remove the drive arm A, switch operation arm and impedance roller operation arm.

During assembly:

1. Install the loading gear so that the triangular projections of both loading gears are symmetrical with respect to the worm gear shaft, and then turn the worm gear in the unloading direction to set the mechanism to the unloading complete condition.
2. Set all the arms to the specified positions.

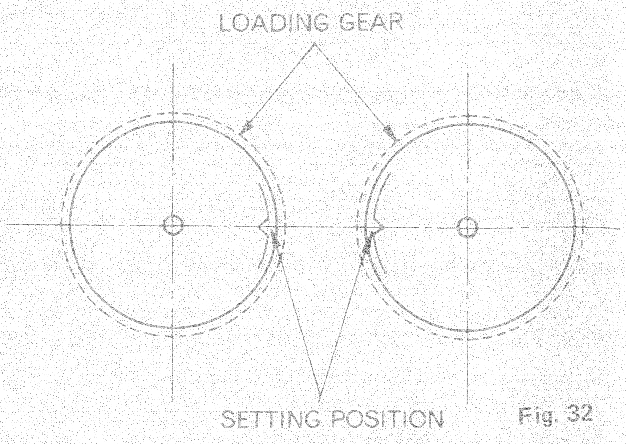
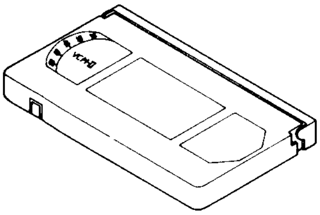

LOADING GEAR
SETTING POSITION

Fig. 32

ADJUSTMENT

SERVICING JIGS AND TOOLS

1



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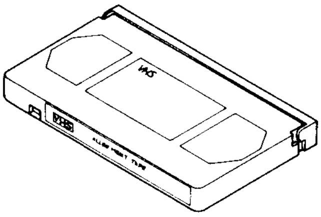

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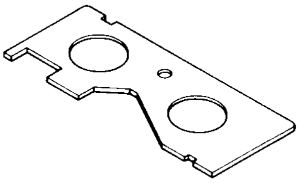

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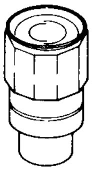

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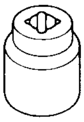

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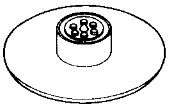

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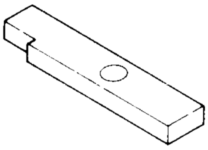

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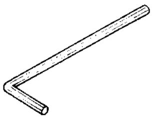

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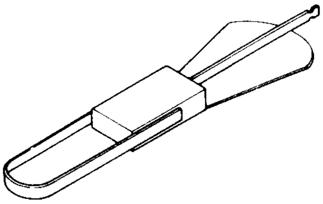
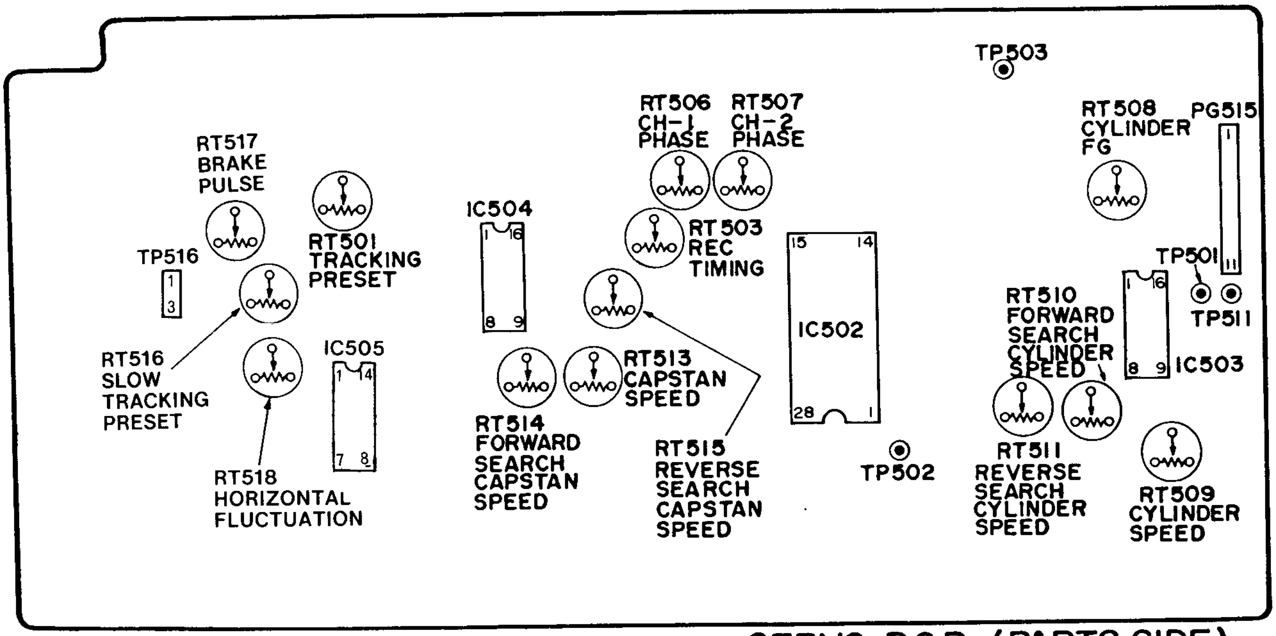


1. Back tension meter
2. Alignment tape
3. Height reference plate (Master plane)
4. Torque gauge
5. Torque gauge adaptor
6. Tension measurement reel
7. Reel disc height jig
8. 1.5 mm hexagonal wrench
9. Fan type tension gauge

ELECTRIC CIRCUIT ADJUSTMENT

ADJUSTMENT OF SERVO CIRCUIT

Locations of controls and test points


TP503
RT506 CH-1 PHASE
RT507 CH-2 PHASE
RT508 CYLINDER FG
PG515
RT517 BRAKE PULSE
IC504
RT503 REC TIMING
TP516
RT501 TRACKING PRESET
IC502
TP501
RT510 FORWARD SEARCH CYLINDER SPEED
TP511
RT516 SLOW TRACKING PRESET
IC505
RT513 CAPSTAN SPEED
IC503
RT514 FORWARD SEARCH CAPSTAN SPEED
RT515 REVERSE SEARCH CAPSTAN SPEED
TP502
RT511 REVERSE SEARCH CYLINDER SPEED
RT509 CYLINDER SPEED
RT518 HORIZONTAL FLUCTUATION

SERVO P.C.B (PARTS SIDE)

1. **Adjustment of capstan speed: RT513**
   1) Input a colour bar signal to the video input jack.
   2) Short-circuit PG515 pins 1 and 2.
   3) Connect the oscilloscope to PG515 pin 5.
   4) Apply an external synchronization signal via PG 515 pin 8.
   5) Load a blank tape and set the VTR to the record mode.
   6) Adjust RT513 so that the sample pulse does not flow in relation to the trapezoidal wave.
   7) Disconnect PG515 pins 1 and 2 and check that the positive differential pulse is stationary at about the center of the leading edge of the trapezoidal wave.

2. **Adjustment of cylinder speed: RT509**
   1) Input a colour bar signal to the video input jack.
   2) Short-circuit PG515 pins 1 and 2.
   3) Connect the oscilloscope to PG515 pin 7.
   4) Apply an external synchronization signal via PG515 pin 8.
   5) Load a blank tape and set the VTR to the record mode.
   6) Adjust RT509 so that the sample pulse does not flow in relation to the trapezoidal wave.
   7) Disconnect PG515 pins 1 and 2 and check that the positive differential pulse is stationary at about the center of the trailing edge the trapezoidal wave.

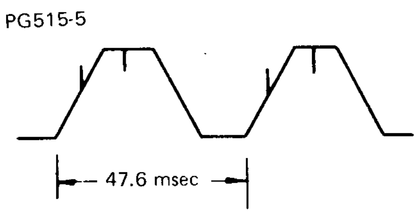

PG515-5
47.6 msec

Fig. 1

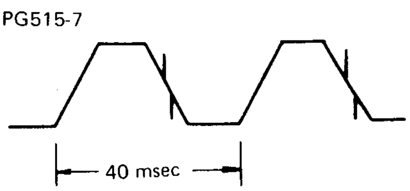

PG515-7
40 msec

Fig. 2

3. Adjustment of cylinder FG: RT508

1) Input a colour bar signal to the video input jack.
2) Connect the oscilloscope to PG515 pin 6.
3) Load a blank tape and set the VTR to the record mode.
4) Adjust RT508 so that the amplitude of the observed signal is minimum.
5) Check that the cylinder speed is not drifted.

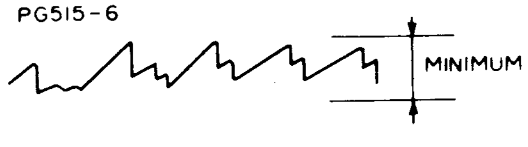


Fig. 3

4. Adjustment of head switching point

Playback switching point: RT506 (CH-1 phase), RT507 (CH-2 phase)

1) Connect the oscilloscope to the video output jack.
2) Apply an external synchronization signal via PG515 pin 8 and set the synchronization slope to "–".
3) Playback the alignment tape.
4) Adjust RT506 so that the sync front porch position is 6.5 H ± 0.5 H behind the trigger position.
5) Change the synchronization slope from "–" to "+".
6) Adjust RT507 in the same way.

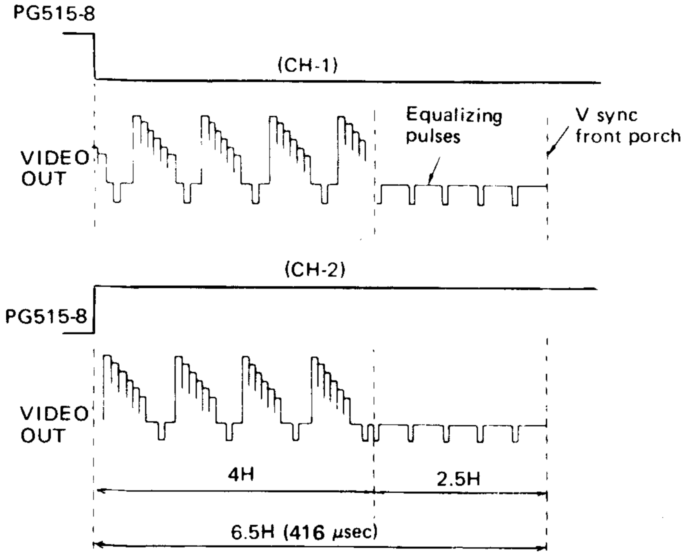


Fig. 4

5. Adjustment of record switching point: RT503 (REC timing)

1) Connect the oscilloscope to the video output jack.
2) Record the colour bar signal or TV signal.
3) Apply external synchronization with the signal via PG15 pin 8.
4) Adjust RT503 so that the V sync. front porch position is 6.5 H ± 0.5 H behind the trigger position.

6. Adjustment of tracking preset: RT501

1) Set tracking control RV1601 to its click position.
2) Connect the oscilloscope to TP511.
3) Apply an external synchronization signal via PG515 pin 8.
4) Playback a tape with a recording of the colour bar signal or TV signal recorded on the same machine.
5) Adjust RT501 so that the points where the amplitudes of CH1 and CH2 FM envelopes begin to drop are in phase.
6) Turn the tracking control (RV1601) to check that the output of the FM envelopes is max at the click point.

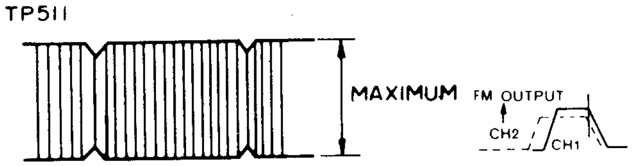


Fig. 5

NOTE :
SLOW PLAY is not described in the specifications but a SLOW switch is provided on the front switch circuit board, so SLOW PLAY is possible.

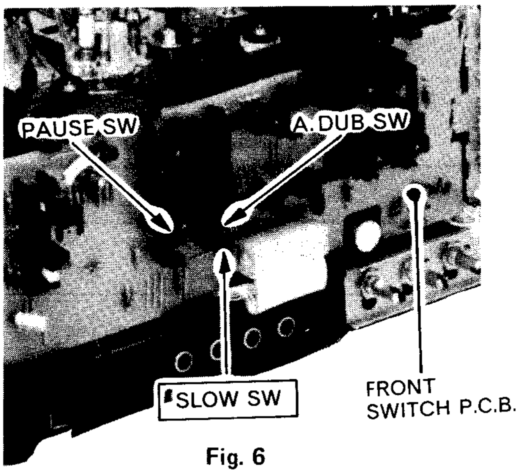


Fig. 6

7. Adjustment of brake pulse: RT517

1) Set slow tracking control RV1602 to its click position.
2) Connect the oscilloscope to PG516 pin 2.
3) Playback a tape with a recording of the colour bar signal or TV signal recorded on the same machine.
4) Set the VTR to the slow mode (on the FRONT SWITCH P.C.B).
5) Adjust R517 to set the pulse width to 25 msec.

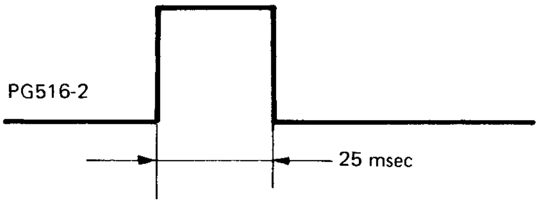


Fig. 7

8. Adjustment of slow: RT901

1) Set slow tracking control RV1602 to its click position.
2) Connect the oscilloscope to PG516 pin 1.
3) Playback a tape with a recording of the colour bar signal or TV signal recorded on the same machine.
4) Set the VTR to the slow mode (on the FRONT switch P.C.B).
5) Adjust RT901 (on the SYSTEM CONTROL P.C.B) to set the center of variation of the pulse width to 85 msec.

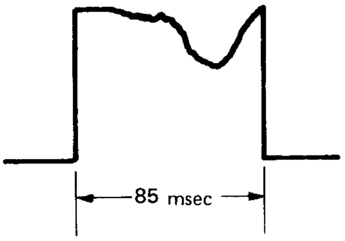
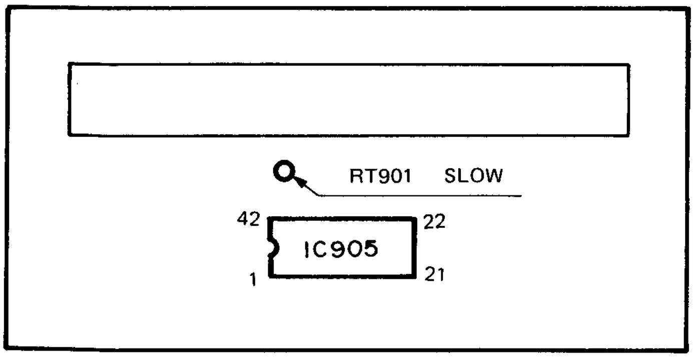


Fig. 8



SYSTEM CONTROL P.C.B
(Parts side)

Fig. 9

9. Adjustment of slow tracking preset: RT516

1) Connect the VTR to a TV set.
2) Set slow tracking control RV1602 to its click position.
3) Playback a tape with a recording of the colour bar signal or TV signal recorded on the same machine.
4) Set theVTR to the slow mode (on the FRONT SWITCH P.C.B).
5) Adjust RT516 to set so that no noise appears, or adjust so that they are even at the top and bottom of the screen.

10. Adjustment of horizontal fluctuation: RT518

1) Connect the VTR to a TV set.
2) Load a recorded tape and place the instrument in the slow mode (on the FRONT SWITCH P.C.B).
3) Adjust RT518 so that the horizontal fluctuation is minimum on the monitor screen.

11. Adjustment of visual search speed

1) Connect a TV set to the VTR.
2) Connect an oscillator to CH-1 jack of the oscilloscope.
3) Apply synchronization with CH-1 signal.
4) Load the alignment tape and play it back.

Forward search cylinder speed: RT510

5) Set the output of the oscillator to 103.8 ± 0.2 Hz.
6) Connect CH-2 probe of the oscilloscope to PG515 pin 3.
7) Set the VTR to the forward visual search mode.
8) Adjust RT510 so that the CH-2 waveform does not flow.

Forward search capstan speed: RT-514

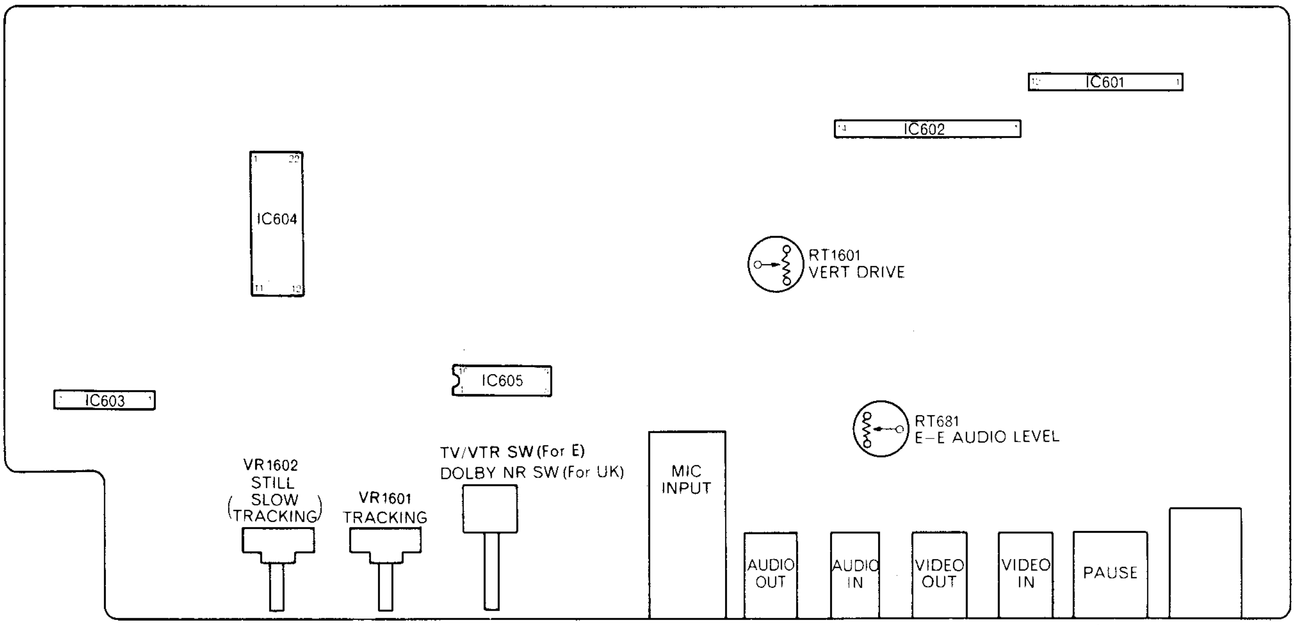
9) Remove the connection of CH-2 probe of the oscilloscope and connect it to PG515 pin 9.
10) Roughly adjust RT514 so that the cycle ofCFG is approx. 0.42 m sec.
11) Adjust RT514 to stop the noise band on the TV screen.
    * The following speed of the noise band is rated to less than one band every five seconds.

Reverse search cylinder speed: RT511

12) Set the output of the oscillator to 95.2 ± 0.2 Hz.
13) Connect CH-2 probe of the oscilloscope to PG 515 pin 3.
14) Set the VTR to the reverse visual search mode.
15) Adjust RT511 so that the CH-2 waveform does not flow.

Reverse search capstan speed: RT515

16) Remove the connection of CH-2 probe of the oscilloscope and connect it to PG515 pin 9.
17) Roughly adjust RT515 so that the cycle of CFG is approx. 0.45m sec.
18) Adjust RT515 to stop the noise band on the TV screen.
    * The flowing speed of the noise band is rated to less than one band every five seconds.


IC601
IC602
IC604
RT1601
VERT DRIVE
IC605
IC603
RT681
E–E AUDIO LEVEL
VR1602
STILL
(SLOW TRACKING)
VR1601
TRACKING
TV/VTR SW (For E)
DOLBY NR SW (For UK)
MIC INPUT
AUDIO OUT
AUDIO IN
VIDEO OUT
VIDEO IN
PAUSE

SLOW PLAY/JACK P.C.B (PARTS SIDE)

12. Adjustment of vert drive : RT1601 (on the SLOW PLAY/JACK P.C.B)

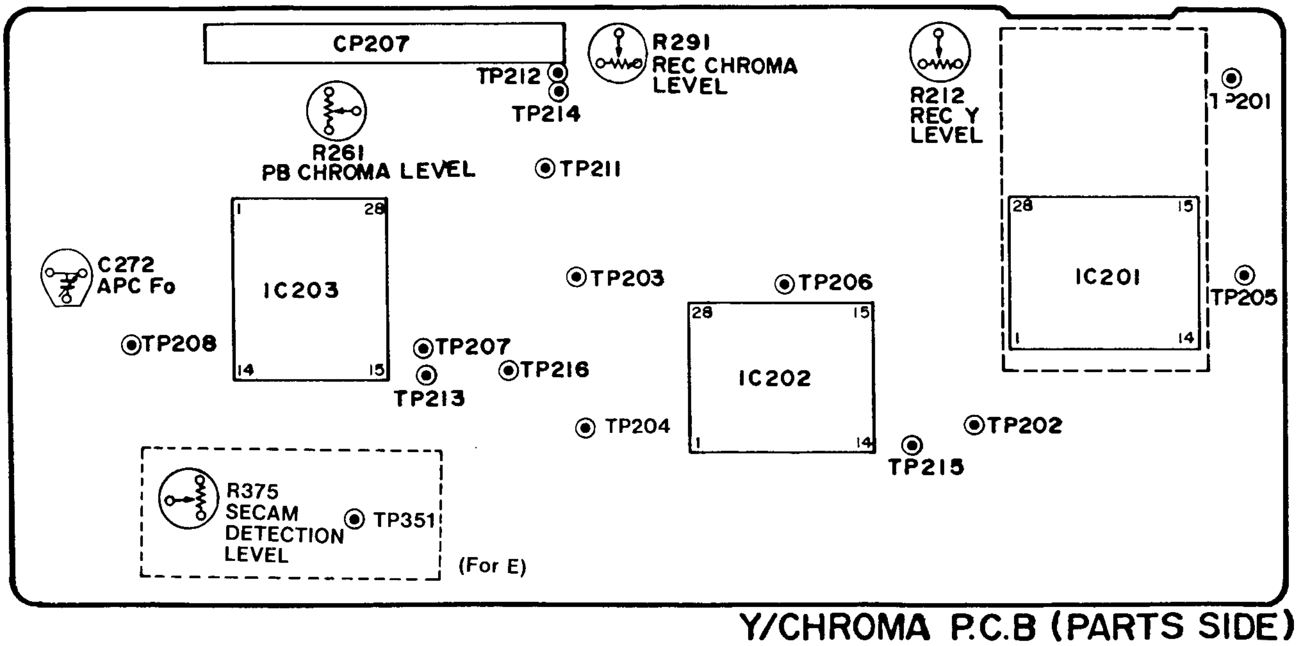
1) Connect the VTR to a TV set.
2) Playback a tape with a recording of the colour bar signal or TV signal recorded on the same machine.
3) Set the VTR to the still mode.
4) Adjust RT1601 so that the vertical fluctuation is minimum on the monitor screen.

13. Adjustment of E-E audio level: RT681 (on the SLOW PLAY/JACK P.C.B)

1) Connect the VTR to a TV set.
2) Receive the broadcast with narrow audio frequency band.
3) Connect the VTVM to the earphone jack of the TV set.
4) Adjust RT681 so that the lever difference between the THROUGH and E–E modes is ±1 dBm based on the THROUGH mode level.

ADJUSTMENT OF VIDEO SIGNAL CIRCUIT

Locations of controls and test points


CP207
TP212
TP214
R291
REC CHROMA
LEVEL
R212
REC Y
LEVEL
TP201
R261
PB CHROMA LEVEL
TP211
C272
APC Fo
IC203
TP203
TP206
IC201
TP205
TP208
TP207
TP216
TP213
IC202
TP204
TP202
TP215
R375
SECAM
DETECTION
LEVEL
TP351
(For E)
Y/CHROMA P.C.B (PARTS SIDE)

1. **Adjustment of APC Fo: C272**
   1) Connect the counter to TP208.
   2) Adjust C272 so that the frequency measured by the counter is 4.435572 MHz ± 20 Hz.

2. **Adjustment of playback chroma level: R261**
   1) Playback the colour bar signal of the alignment tape.
   2) Connect the oscilloscope to TP203.
   3) Adjust R261 so that the peak value of the chroma signal with respect to the white level is as shown in Fig. 10 .

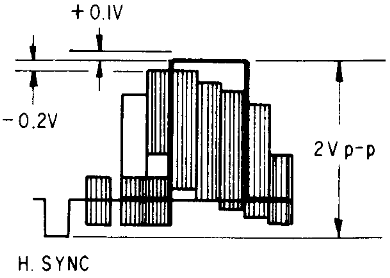

+0.1V
−0.2V
2V p-p
H. SYNC

Fig. 10

3. Adjustment of record Y level and record chroma level: R212, R291

1) Input the colour bar signal to the video input.
2) Connect the oscilloscope to TP201.
3) Set the unit to the record mode and R212 to minimum.
4) Adjust R291 so that the 627 kHz chroma signal is one of the following values depending on the cylinder number.
5) Adjust R212 so that the level of the synchronized section of the output is 150 mVp-p.

Cylinder No.	Adjusting Value
0	30
1	35
2	40
3	45
4	45

Fig. 11

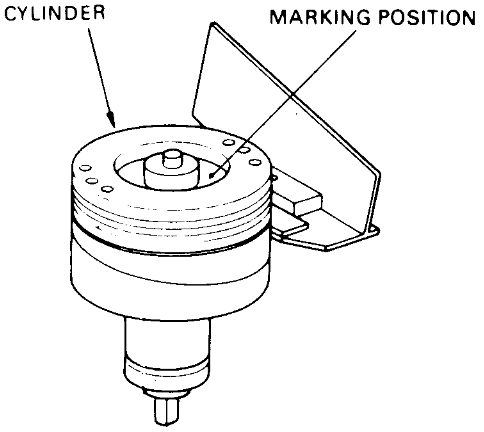


Fig. 12

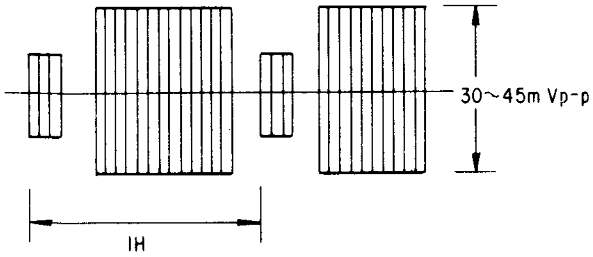


Fig. 13

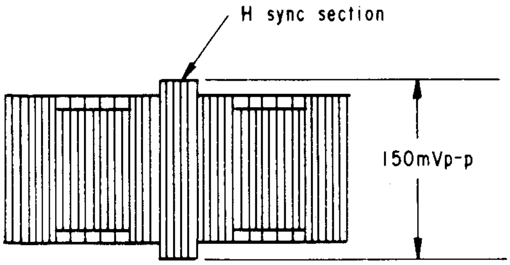


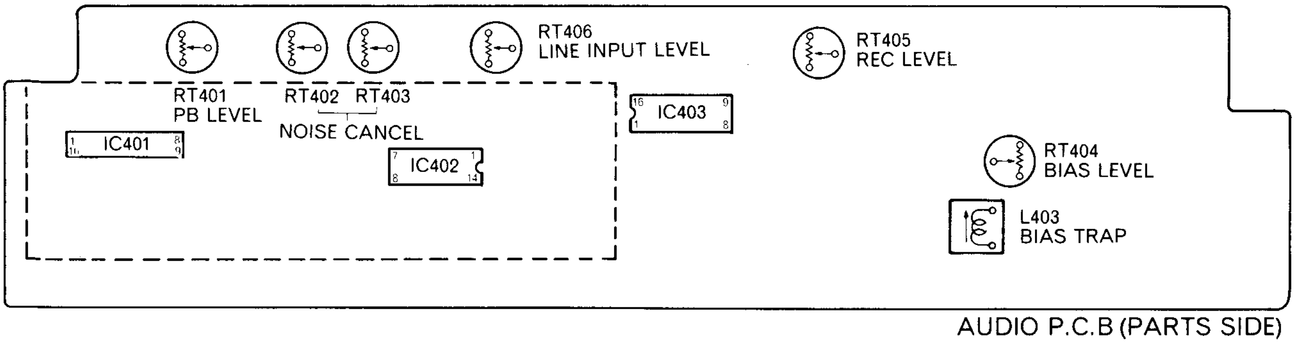
Fig. 14

4. Adjustment of SECAM detection level: R375 (For E)

1) Connect the oscilloscope to TP351.
2) Input the SECAM colour bar signal to the video input.
3) Set the unit to the record mode.
4) Adjust R375 so that the peak value of the observed signal is 6±0.2V.

ADJUSTMENT OF AUDIO CIRCUIT (For UK model)

Location of controls and test points


RT406
LINE INPUT LEVEL
RT405
REC LEVEL
RT401
PB LEVEL
RT402 RT403
NOISE CANCEL
IC401
IC402
IC403
RT404
BIAS LEVEL
L403
BIAS TRAP
AUDIO P.C.B (PARTS SIDE)

1. **Tilt adjustment to audio/control head**
   1) Playback the 6 kHz audio signal of the alignment tape.
   2) Connect the oscilloscope to the audio output terminal.
   3) Adjust the azimuth adjustment screw to maximize the audio output of the 6 kHz signal.

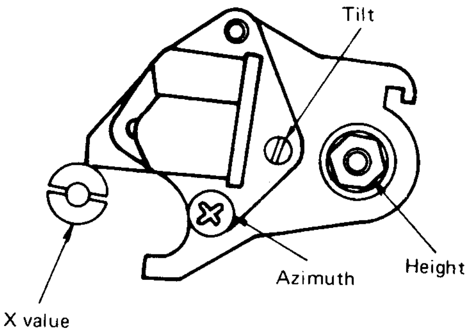

Tilt
Azimuth
Height
X value

Fig. 15

2. **Adjustment of bias trap: L403**
   1) Load a blank tape and set the unit to the record mode.
   2) Connect the oscilloscope to TP404.
   3) Adjust L403 so that bias leakage is minimum.

3. **Adjustment of line input level: RT406**
   1) Set the unit to the E-E mode.
   2) Connect the audio signal oscillator to the audio input jack.
   3) Input a 400 Hz –20 dBm audio signal to the oscillator.
   4) Connect the VTVM to TP406.
   5) Adjust R479 to obtain 580 mV ± 0.2 dB.

4. **Adjustment of playback level: RT401**
   1) Play back the 1 kHz signal record on the alignment tape.
   2) Connect the VTVM to the audio output jack.
   3) Adjust RT401 to set the level to –6 dBm ± 0.5 dB.

5. **Adjustment of noise cancel: RT402, RT403**
   1) Connect the oscilloscope to the audio output jack.
   2) Load a blank tape and set the instrument to the playback mode.
   3) Adjust RT402 and RT403 mutually to minimize the 100 Hz CYL FG signal in the audio signal.

6. **Adjustment of bias level: RT404**
   1) Load a blank tape and set the unit to the record mode.
   2) Connect the VTVM to 2 pins of the AC head P.C.B.
   3) Adjust RT404 to set the level to 3.5 mV ± 0.1 mV.

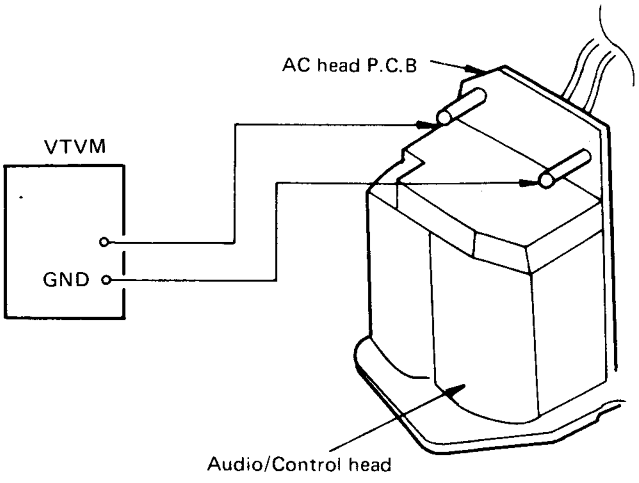
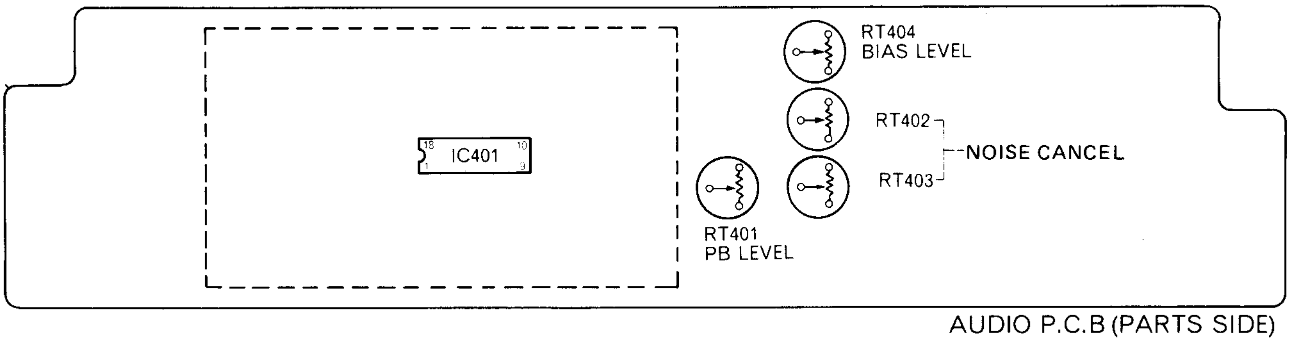

AC head P.C.B
VTVM
GND
Audio/Control head

Fig. 16

7. **Adjustment of record level: RT405**
   Perform this adjustment after the bias level adjustment is completed.
   1) Connect the audio signal oscillator to the audio line input jack.
   2) Input a 400 Hz, – 20 dBm signal.
   3) Connect the VTVM to the audio output jack.
   4) Load a blank tape and set the unit to the record mode.
   5) Adjust RT405 so that the REC/PLAY output is -6 ±0.5 dBm.

ADJUSTMENT OF AUDIO CIRCUIT (Except for UK model)

Location of controls and test points



1. Tilt adjustment to audio/control head (See Fig. 15)

1) Playback the 6 kHz audio signal of the alignment tape.
2) Connect the oscilloscope to the audio output terminal.
3) Adjust the azimuth adjustment screw to maximize the audio output of the 6 kHz signal.

2. Adjustment of noise cancel: RT402, 403

Note: If leakage of the 100 Hz signal is too high, this adjustment can be performed before adjustment of the PB level.

1) Connect the oscilloscope to the audio output jack.
2) Load a blank tape and set the instrument to the playback mode.
3) Adjust both RT402 and RT403 to minimize the 100 Hz CYL FG signal in the audio signal.

3. Adjustment of playback level: RT401

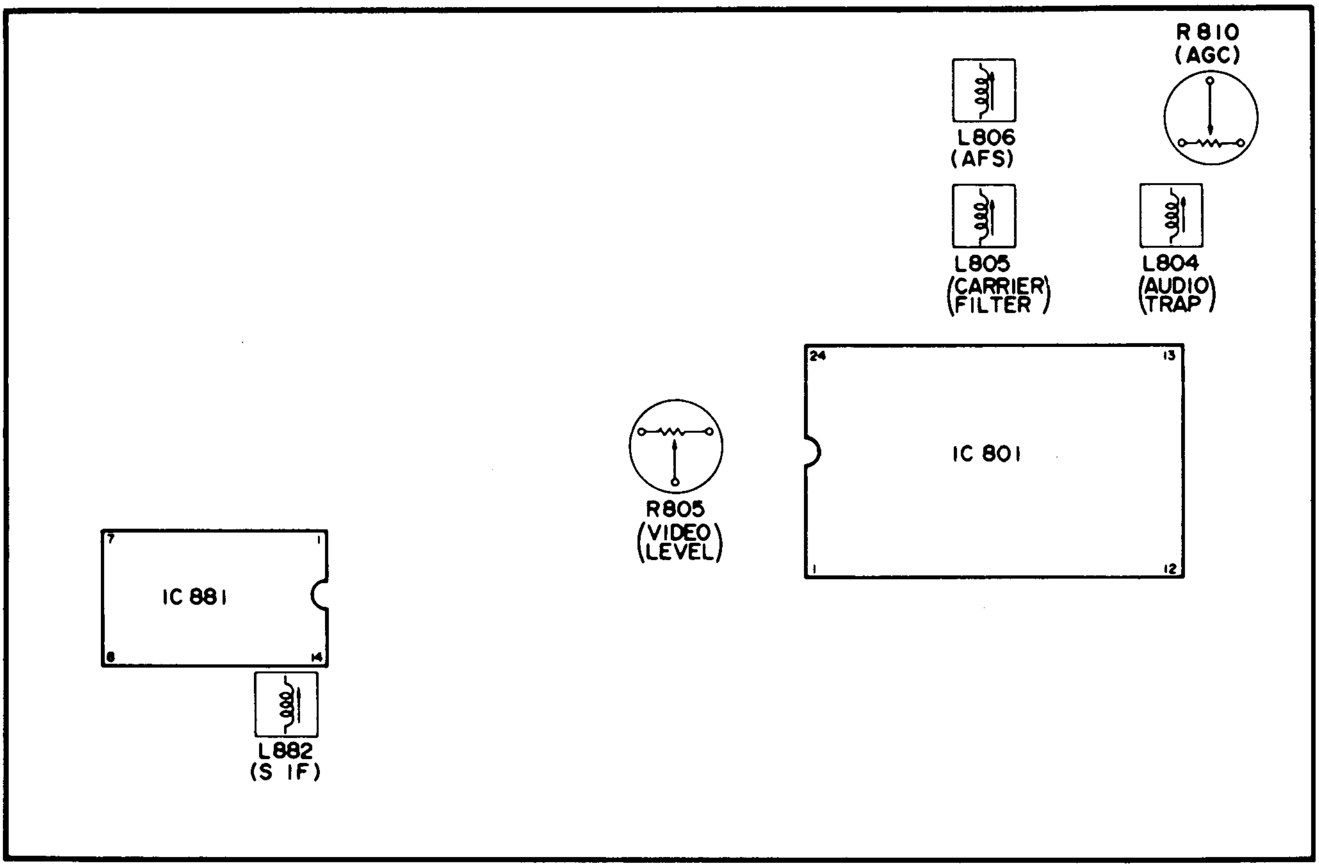
1) Connect the audio level meter (or oscilloscope) to the audio output jack.
2) Playback the 1 kHz section of the alignment tape.
3) Adjust RT401 so that the audio level meter reads −6 dBm ± 0.5 dB.
4) Readjust RT402 and RT403.

4. Adjustment of bias level: RT404

1) Connect the V.T.V.M. to both side of R400. (see Fig. 16)
2) Load a blank tape and record.
3) Adjust RT404 so that the bias voltage is 3.2 – 3.7 mV.

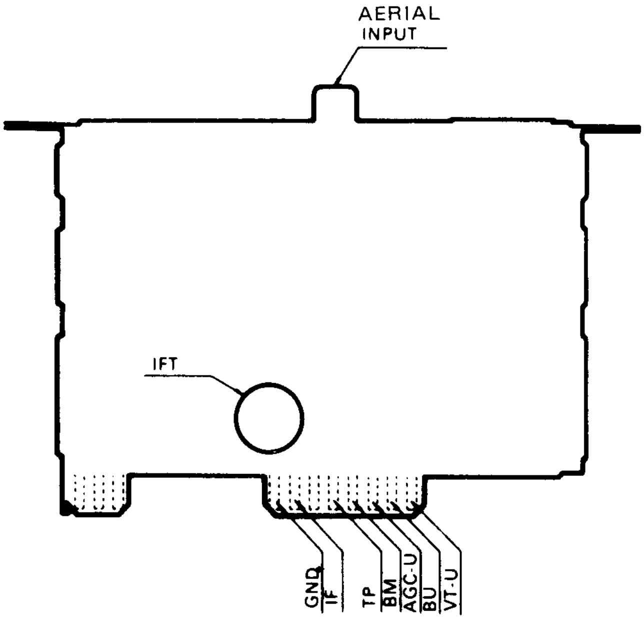
ADJUSTMENT OF TUNER/IF CIRCUIT

Locations of controls and test points

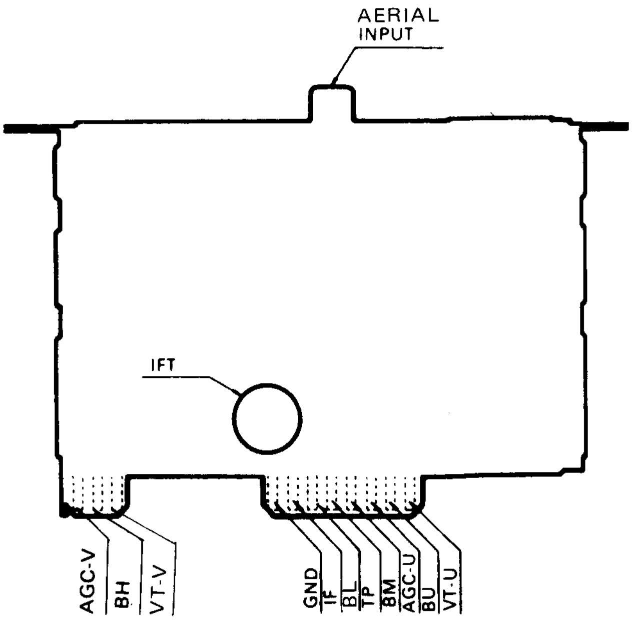

R810
(AGC)
L806
(AFS)
L805
(CARRIER FILTER)
L804
(AUDIO TRAP)
24
13
IC 801
1
12
R805
(VIDEO LEVEL)
7
1
IC 881
8
14
L882
(S IF)

IF P.C.B (PARTS SIDE)

ET-548 (For UK Model)


AERIAL
INPUT
IFT
GND
IF
TP
BM
AGC-U
BU
VT-U

ET-541 (Except for UK model)


AERIAL
INPUT
IFT
AGC-V
BH
VT-V
GND
IF
BL
TP
BM
AGC-U
BU
VT-U

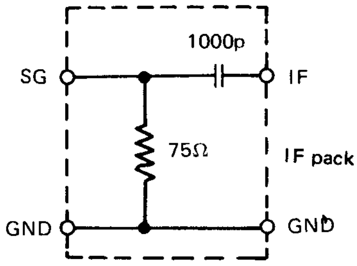

1000p
SG
IF
75Ω
IF pack
GND
GND

Fig. 21

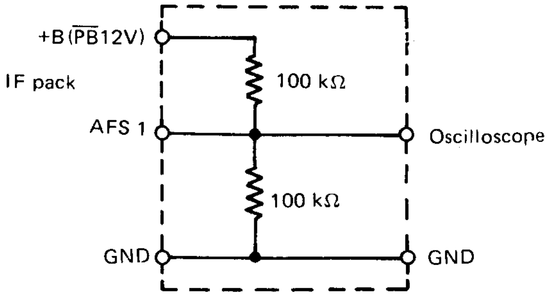

+B (PB12V)
IF pack
100 kΩ
AFS 1
Oscilloscope
100 kΩ
GND
GND

Fig. 22

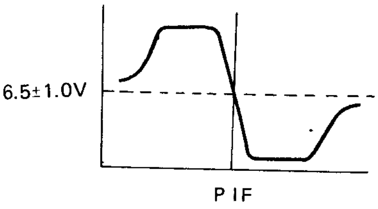


Fig. 23

4. Adjustment of S IF : L882

1) Connect the AM signal generator to IC801 pin ② of IF pack via coupling circuit shown in Fig. 24.

   [AM SG] Output: −60 ±5 dBm
   Frequency : 33.5 MHz ± 5 kHz (For UK)
   33.4 MHz ± 5 kHz
   (Except for UK)
   MOD. signal: 400 Hz
   Modulation: AM30%

2) Turn the operate switch ON.
3) Connect pin 6 of IC881 to earth.
4) Connect the oscilloscope to audio output of IF pack.
5) Adjust the core of L882 so that the signal amplitude is minimum.

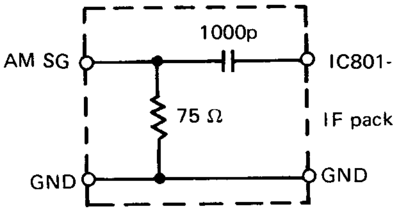

1000p
AM SG
IC801- ②
75 Ω
IF pack
GND
GND

Fig. 24

5. Adjustment of P IF: IFT

1) Connect the sweep marker generator to the aerial input terminal of the VTR via coupling circuit shown in Fig. 25.

   [SG] Output : −50 ±5 dBm

2) Turn the operate switch ON.
3) Connect pin 22 of IC801 to earth and apply 8.6 ±0.1V to pin 12 of IC801.
4) Connect a 50Ω resistor between pins 18 and 19 of IC801.
5) Close the programme preset cover (AFS switch: ON).
6) Connect the oscilloscope to video output of IF pack.
7) Adjust the coil IFT so that the waveform is as shown in Fig. 26.

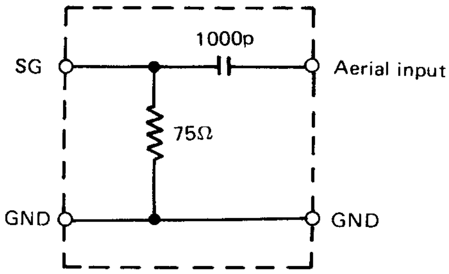
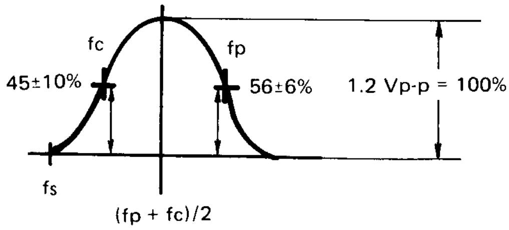

1000p
SG
Aerial input
75Ω
GND
GND

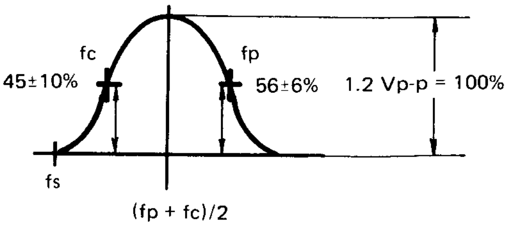
Fig. 25

[For ET-548] (For UK model)



fp = 39.5 MHz
fc' = 35.07 MHz
fs = 33.5 MHz

[For ET-541] (Except for UK model)



fp = 38.9 MHz
fc' = 34.47 MHz
fs = 33.4 MHz

Fig. 26

1. Adjustment of carrier filter: L805

1) Connect the RF modulator to aerial input of tuner pack via the coupling circuit shown in Fig. 17.
   [Modulator] Output: –41±10 dBm
   MOD.Signal: 100% white signal
2) Turn the operate switch ON:
3) Connect the oscilloscope (DC range) to pin 24 of IC801.
4) Tune using the channel selector unit to set to the regular reception mode.
5) Turn the core of L805 clockwise so that it touches the PC Board.
6) Next, turn the core gradually counterclockwise to check that the normal detection waveform apears and the white section shown in Fig. 18 is larger than a minimum.
   Turn the core clockwise from this position and stop just before the white section begins to increase.
   Adjustment precision: b/a (Shown in Fig. 18 Should be 100 ~ 105%).

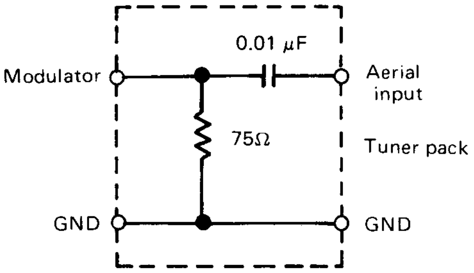

0.01 µF
Modulator
Aerial input
75Ω
Tuner pack
GND
GND

Fig. 17

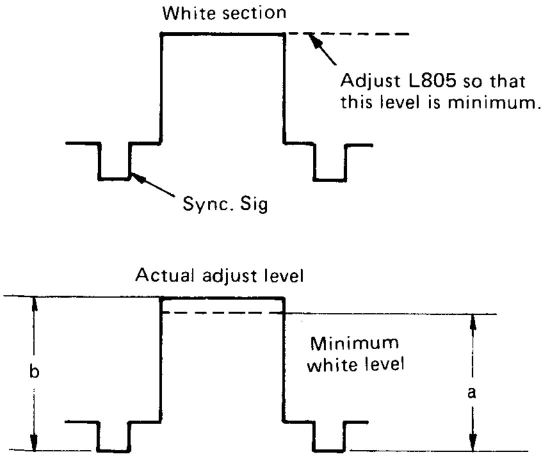

White section
Adjust L805 so that this level is minimum.
Sync. Sig
Actual adjust level
b
Minimum white level
a

Fig. 18

2. Adjustment of audio trap: L804

1) Connect the sweep marker generator between CP801 and L802 of IF pack via the coupling circuit shown in Fig. 19.
   [SG] Output : –20 ± 10 dBm
   Frequency : 33.5 MHz (For UK)
   33.4 MHz (Except for UK)
2) Turn the operate switch ON.
3) Connect pin 22 of IC801 to earth and apply 8.6±0.1V to pin 12 of IC801.
4) Connect the oscilloscope to pin 24 of IC801.
5) Connect a 50Ω resistor between pins 18 and 19 of IC801.
6) Adjust the core of L804 so that the level of audio trap frequency is minimum.
   Audio trap frequency:
   (S IF) 33.5 MHz ± 50 kHz (For UK)
   33.4 MHz ± 50 kHz (Except for UK)

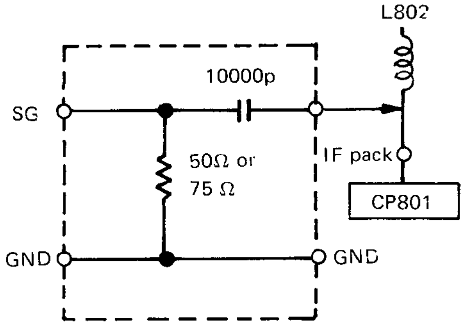

L802
10000p
SG
50Ω or 75 Ω
IF pack
CP801
GND
GND

Fig. 19

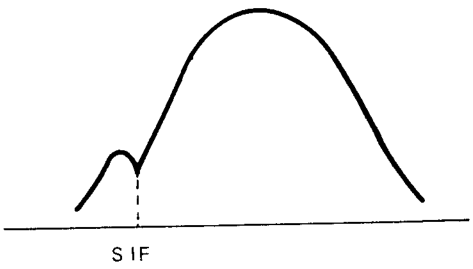


Fig. 20

3. Adjustment of AFS: L806

1) Connect the sweep marker generator to IF terminal of IF pack via the coupling circuit shown in Fig. 21.
   [SG] Output : –4 ± 5 dBm
   Frequency : 39.5 MHz (For UK)
   38.9 MHz (Except for UK)
2) Turn the operate switch ON.
3) Connect pin 22 of IC801 to earth and apply 8.6 ±0.1V to pin 12 of IC801.
4) Connect the oscilloscope (DC range) to AFS 1 terminal of IF pack via the coupling circuit shown in Fig. 22.
5) Adjust the core of L806 so that the output voltage at P IF is 6.5 ± 1.0V.
   (P IF): 39.5 MHz (For UK)
   38.9 MHz (Except for UK)

MECHANICAL ADJUSTMENT

2. MECHANICAL ADJUSTMENT

Adjusting all parts

1. Cylinder tach head adjustment

1) Loosen the tach head bracket fixing screw and move the bracket to set the interval between the head and magnet to 0.5 ± 0.1 mm.

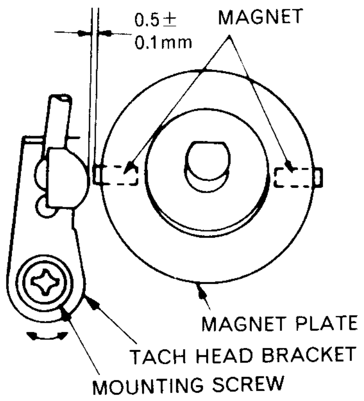

0.5 ± 0.1 mm
MAGNET
MAGNET PLATE
TACH HEAD BRACKET
MOUNTING SCREW

Fig. 28

2) Observing the waveform at IC502 (HA-11711) pin 19 and GND, perform the gap adjustment so the number of waves is the specified number.

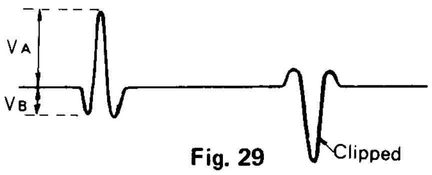

VA
VB
Clipped

Fig. 29

By observing the above positive polarity pulse, adjust to satisfy the following relation; $V_A > 0.8V_p$, $V_B < 0.3\ V_p$

2. Reel sensor adjustment

1) Loosen the reel sensor PC Board fixing screws.
2) Tighten screws after setting the interval between the sensor and magnet to less than 0.5 ± 0.2 mm.

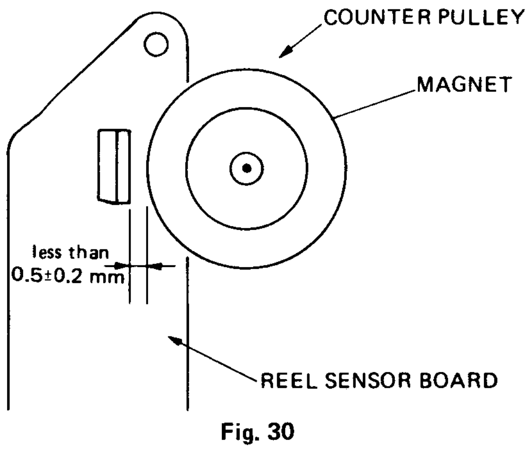

COUNTER PULLEY
MAGNET
less than 0.5±0.2 mm
REEL SENSOR BOARD

Fig. 30

3. Mechanical state sensor switch adjustment

1) Turn the pulley in the unloading direction until it stops.
2) Loosen the fixing screw and move the switch so that the V-shaped groove of the switch and the triangular hole match when viewed from the top.
3) Tighten the fixing screw.

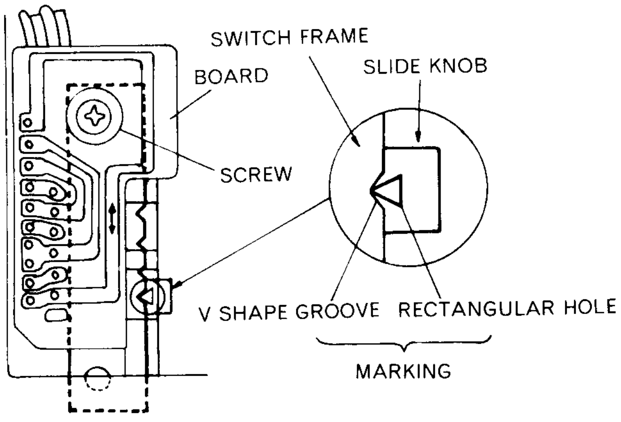

SWITCH FRAME
BOARD
SLIDE KNOB
SCREW
V SHAPE GROOVE
RECTANGULAR HOLE
MARKING

Fig. 31

4. Reel disk height adjustment

1) Mount the master plane to the cassette holder and hang the cassette holder.
2) Place the Reel disk height jig on the master plane and apply it to the reel disk.
3) Adjust the number of spacers (2 types; 0.25 mm thick, 0.5 mm thick) at the bottom of the reel disk to adjust the height of the reel disk so that it can enter between jigs A and B.
(Insert the spacer between the reel disk and the metal washer)

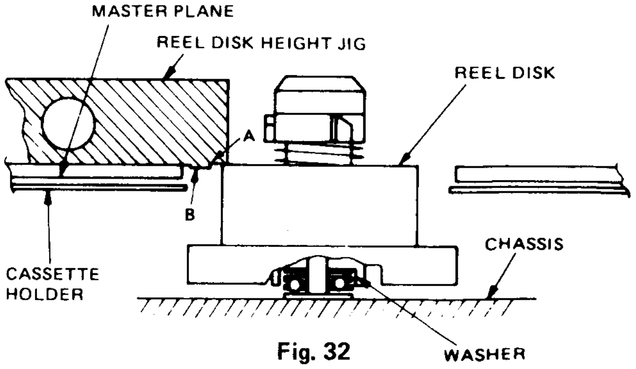

MASTER PLANE
REEL DISK HEIGHT JIG
REEL DISK
A
B
CHASSIS
CASSETTE HOLDER
WASHER

Fig. 32

5. Guide pole adjustment

1) Mount the master plane to the cassette holder.
2) Place the reel disk height jig on the master plane and lightly press it against the guide pole.
3) Turn the nut at the top of the guide pole and set the interval between the top of the square gauge and the top flange to 0.1 ± 0.1 mm.
4) Remove the jig.
5) Perform "Running adjustment".

6. Adjustment of video output: R805

1) Connect the pattern generator to the aerial input terminal of the VTR.

   [Generator] Output: –41 ±10 dBm
2) Turn the operate switch ON.
3) Close the programme preset cover (AFS switch: ON).
4) Connect the oscilloscope to video output of IF pack.
5) Adjust R805 so that the value of the video signal is 1.0 ± 0.05 Vp-p.

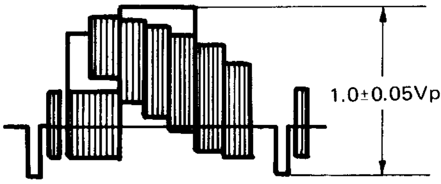


Fig. 27

7. Adjustment of AGC: R810

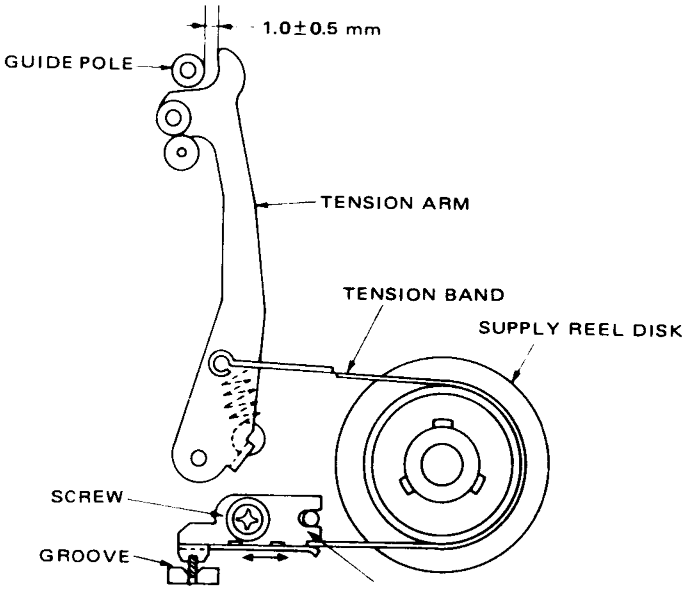
1) Connect the pattern generator to the aerial input terminal of the VTR.

   [Generator] Output: –49 dBm (For UK)
   –47 dBm (Except for UK)
2) Turn the operate switch ON.
3) Close the programme preset cover (AFS switch: ON).
4) Connect the voltmeter to AGC terminal of IF pack. Use a voltmeter with an internal impedance of more than 100 kΩ.
5) Adjust R810 so that the voltage is 9.2 ± 0.3V.
6) Readjust R810 after performing a heat-run for more than 3 minutes in the signal reception mode.

8. Tension pole position and tension adjustment

Position adjustment

1) Cover the light-receiving port of the supply end sensor using paper, etc.
2) Set the VTR to the PLAY mode without loading the tape.
3) Loosen the tension band fixing screw and put a screwdriver between the band holder and the groove in the chassis.
4) Move the band holder using the screwdriver, and set the gap between the tension arm and the fixed guide to 1.0±0.5 mm. (Set to 1.5±0.5 mm with a new band).
5) Set the VTR to the STOP mode and tighten the screw.

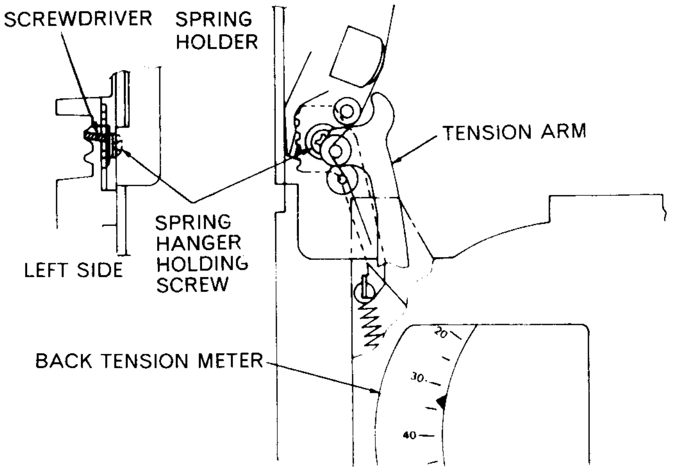


1.0±0.5 mm
GUIDE POLE
TENSION ARM
TENSION BAND
SUPPLY REEL DISK
SCREW
GROOVE
TENSION BAND BRACKET

Fig. 36

Tension adjustment

1) Loosen the spring holder fixing screw.
2) Mount the back-tension meter and set the VTR to the PLAY mode.
3) Put a screwdriver in the tension adjustment groove on the left side of the set.
4) Move the spring holder and set tension to 30 ~ 45g · cm.



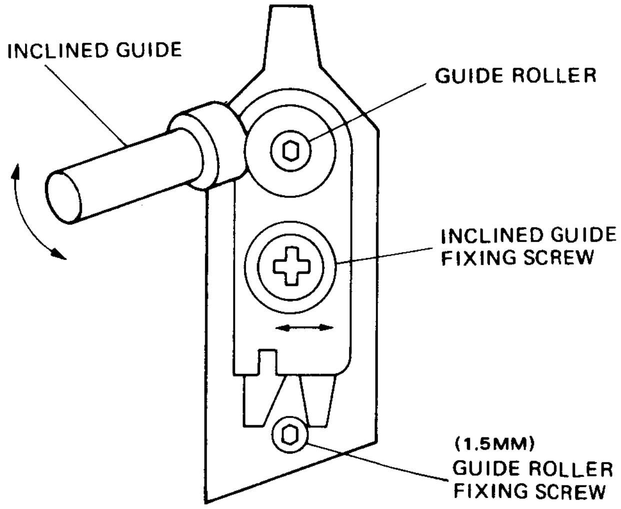
SCREWDRIVER
SPRING HOLDER
TENSION ARM
SPRING HANGER HOLDING SCREW
LEFT SIDE
BACK TENSION METER
20
30
40

Fig. 37

5) Set the VTR to the STOP mode and tighten the screw.
   Check the pole position after adjusting tension.
   When both values are not satified, repeat adjustment.
6) Remove the paper used for covering the sensor after adjustment is completed.

Inclined guide adjustment

1) Run a blank tape.
2) Loosen the inclined guide fixing screw.
3) Move the guide to set so that no crease or curl occurs, and then lock the fixing screw.
   Be sure not to turn the guide roller fixing screw at this time.
4) Perform "Running adjustment".



INCLINED GUIDE
GUIDE ROLLER
INCLINED GUIDE FIXING SCREW
(1.5MM)
GUIDE ROLLER FIXING SCREW

Fig. 38

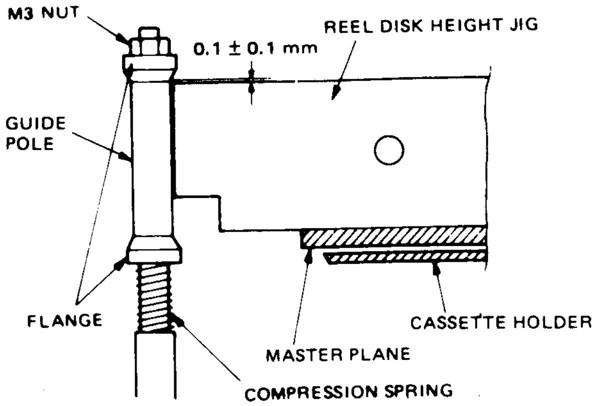


Fig. 33

6. AC Head adjustment

(Rough adjustment)

Tilt adjustment

1) Mount the master plane to the cassette holder and bring the reel disk height jig nearer to the AC head.
2) Turn the tilt adjustment screw so that the AC head surface and the reel disk height jig surface are parallel.

Azimuth adjustment

1) Turn the azimuth adjustment screw so that the side of the AC head and the side of the reel disk height jig are parallel.
2) Remove the jig.

Height adjustment

1) Load a tape, and stop in the loaded condition.
2) Turn the height adjustment screw so that the core top of the audio erase head is a little above the tape (0.2 mm or less). The core bottom of the CONTROL head should slightly protrude from the tape at this time.

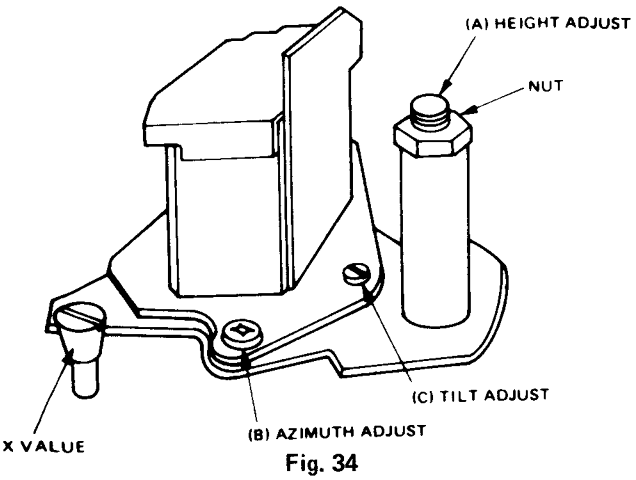


Fig. 34

(Fine adjustment)

Tilt adjustment

1) Play back the 6 kHz audio signal of the alignment tape.
2) Connect the oscilloscope to the audio output terminal.
3) Adjust the tilt adjustment screw to minimize fluctuation of audio level in the audio output.

Note : The FM envelope becomes unstable when the screw is turned clockwise so that the stretching of the top of the tape is too much.

Azimuth adjustment

Adjust the azimuth adjustment screw to maximize the audio output of the 6 kHz signal.

Height adjustment

Adjust the height adjustment screw to maximize the audio output.

7. X value adjustment

Connection

Connect the oscilloscope to TP202 on the Y/CHROMA PC board.

Mode

Insert the alignment tape and playback the colour bar signal.

Adjustment point

X value adjustment screw. (Fig. 34)

Adjustment

Set the tracking control to its center click position and adjust the X value adjusting screw so that the peak-to-peak value of the FM envelope is maximum. Fig. 35 shows the variation characteristics of the peak-to-peak value of the FM envelope with respect to the turning of the tracking control when the X value is optimized using an alignment tape.

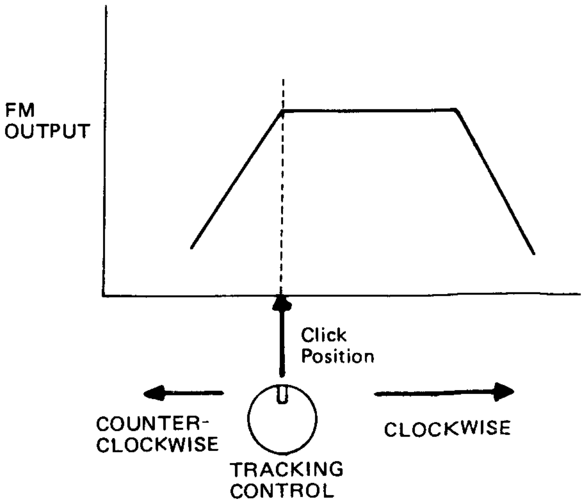


Fig. 35

Adjust the positions shown below depending on the parts replaced when parts are refitted or replaced.

1. When the upper cylinder is replaced.

	Judgement
Guide roller height	Creases and curls should not occur in the tape
Inclined guide angle	Check fluctiation and flatness of the envelope
Video Head Change	Chack following adjustments Page. 23 Section 4 CH1/CH2 phase adjustment (switching point). Page. 23 Section 6 Tracking adjustment. Page. 26 Section 2 Playback chroma level adjustment. Page. 27 Section 3 Record Y level/Record chroma level adjustment.

2. When the AC head is replaced.

	Judgement
AC head height	Check the audio or control track width
AC head azimuth	Maximize audio playback level
AC head tilt	No slack at the top and bottom of the tape
X value position	Conspicuous audio level fluctuation should not be present

3. When the guide roller and inclined guide are replaced.
   Same as in item 1.

4. When the guide pole is replaced.

	Judgement	Tool
Guide pole height	No creases or curls should be present. Envelope should not fluctuate	Nutdriver Oscilloscope

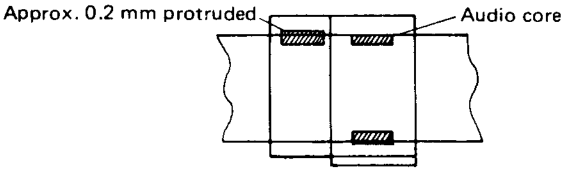
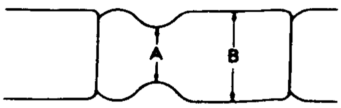
Checking torques of all parts

The measured values listed below are reference values.

	Item	Mode	Measured reel	Measured value
1	Main brake torque	STOP	Both reels	200 gcm or more
2	Slack removal torque	Unloading	Supply reel	100 ~ 200 gcm
3	Rewind	REW	Supply reel	400 gcm or more
4	Take-up	PLAY	Take-up reel	70 ~120 gcm
5	FF	F. FWD	Take-up reel	400 gcm or more
6	Supply back-tension	F. FWD	Supply reel	4 ~ 15 gcm
7	Take-up back-tension	REW	Take-up reel	4 ~ 15 gcm
8	Take-up brake torque	(1) Loading (2) Unloading	Take-up reel	80 ~ 140 gcm

Tape transport adjustment

It is required to perform the running check adjustment shown below when the upper cylinder or AC head is replaced or removed and refitted or when the tape guide pieces (fixed guide post, impedance roller, guide roller, etc.) are replaced. Do not detach or adjust the left/right catcher installation screws. They are adjusted and fixed in the factory using high-precision ligs, so when they are detached and adjusted, overall running adjustment becomes impossible.

Check item	Judgement	Tool/measuring instrument
Back-tension	30 ~ 45 gr/cm (VTR horizontal)	Back-tension meter
Guide pole	Tape should slide along the lower flange and not crease or curl.	By eye
Inclined guide and guide roller	Conspicuous creases or curls not present in tape. No adherence of dust.	By eye
Tape	Conspicuous distortion of the tape or change should not be present.	By eye
Impedance roller	Roller should rotate smoothly	By eye
AC head	Tape should keep contact fully with the control head core and audio head core. 	By eye Diagram on the left shows reference values.
Envelope Playback staircase waveform alignment tape: Flatness Fluctuation X value	Conspicuous fluctuations should not be present Turn the tracking VR to set the output of the FM envelope to 75% (B) of max. The minimum value (A) should be 50% or more than the max. value at that time. The fluctuation in width of the envelope should be 20% or less. Envelope should be within 80% or more of max. with the tracking knob set to the click position.	Alignment tape Oscilloscope  Envelope wave TP202 on theY/C PC board Trigger-PG515 pin 8 on the SERVO PC board

CAUTION

1. **AM strong signal interference**

   When a tape is played back in an area with strong AM radio signals, the picture may loose its color. Add L349 and C294 to the Y/CHROMA circuit board (section shown with broken lines in the schematic diagram) and adjust L349 so that the AM interference is minimum, in such a case.

2. **Vertical sync of the monitor TV set drifts in the visual search mode.**

   When watching the picture in the visual search mode, the vertical sync drifts with the CTV model CPT-2064, Camera model VKC-770E, etc. so that the picture flows becoming difficult to see.
   In such a case, adjust the V. HOLD control of the monitor TV set so that vertical sync does not drift.

3. **PAL colour varnishes when using CTV for both PAL and SECAM.**

   When playing back a tape recorded with a PAL signal monitoring with a CTV used for both PAL and SECAM, color may varnish.
   In this case, minimize the play chroma level control (R261) on the WYC circuit board.

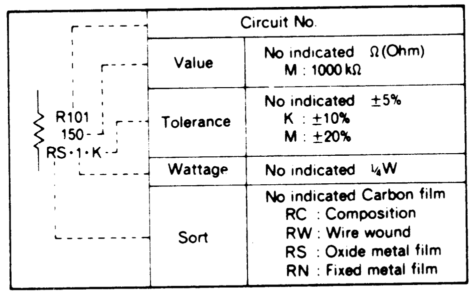
4. **Audio signal leakage from the microphone**

   When a microphone is connected, the input signal from the microphone leaks a little with a maximum input level in a mode other than the REC and A. DUB modes because of the sound mixing system. There is no leakage in the PLAY mode.

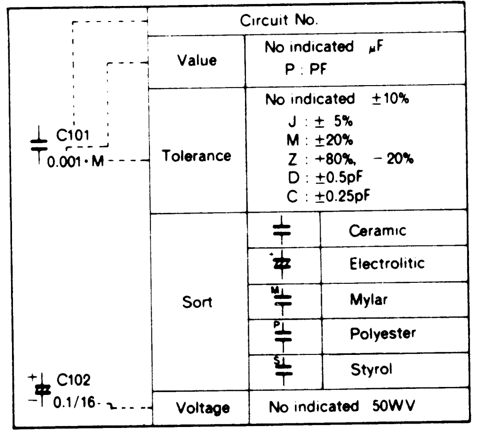
DIAGRAMS

Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
   (   ) are shown in recording condition.
2. Nomenclature of Resistors and Capacitors.



	Circuit No.
Value	No indicated Ω(Ohm) M : 1000 kΩ
Tolerance	No indicated ±5% K : ±10% M : ±20%
Wattage	No indicated ¼W
Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film



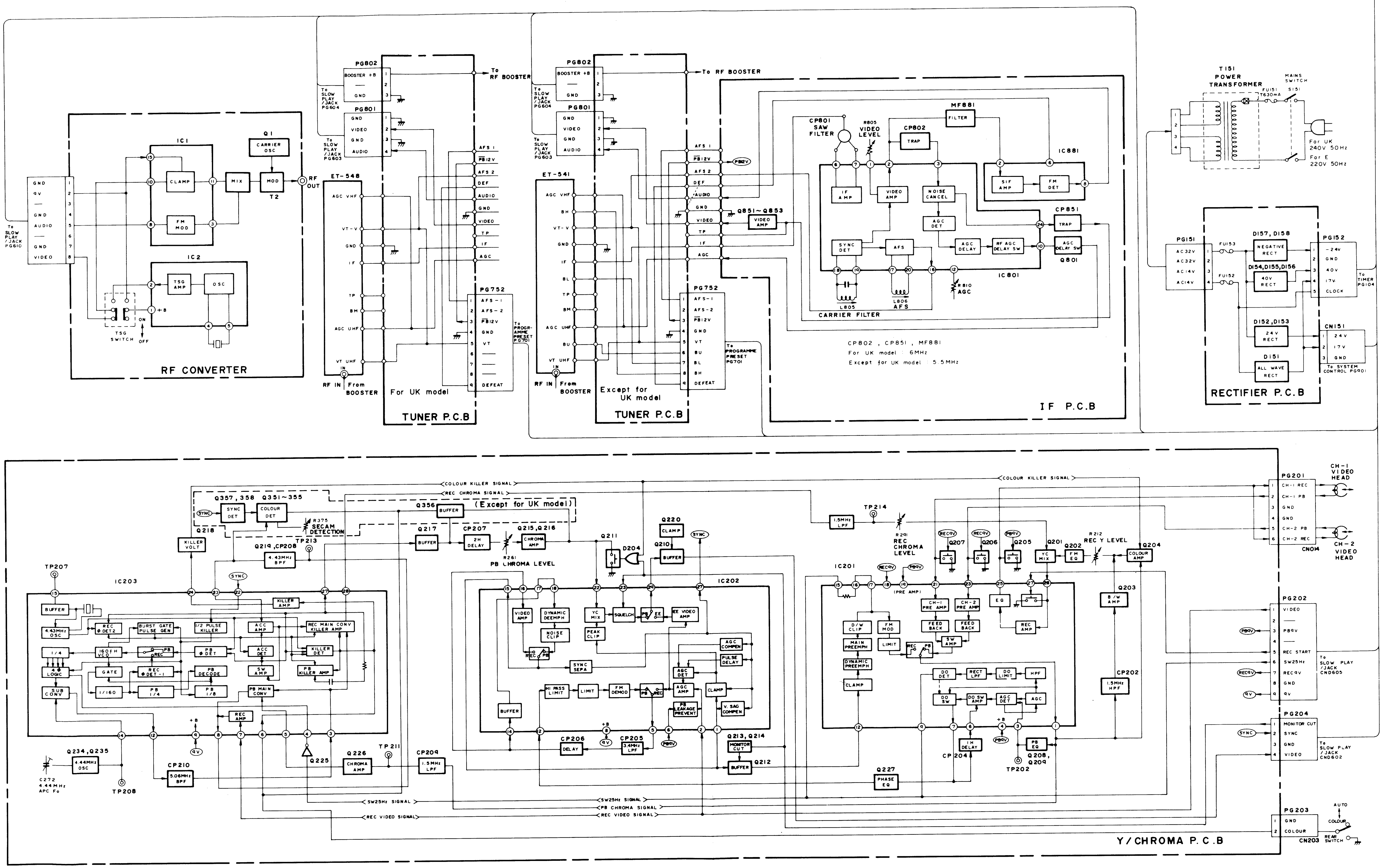
	Circuit No.	
Value	No indicated μF P : PF	
Tolerance	No indicated ±10% J : ± 5% M : ±20% Z : +80%, −20% D : ±0.5pF C : ±0.25pF	
Sort		Ceramic
	+	Electrolitic
	M	Mylar
	P	Polyester
	S	Styrol
Voltage	No indicated 50WV	

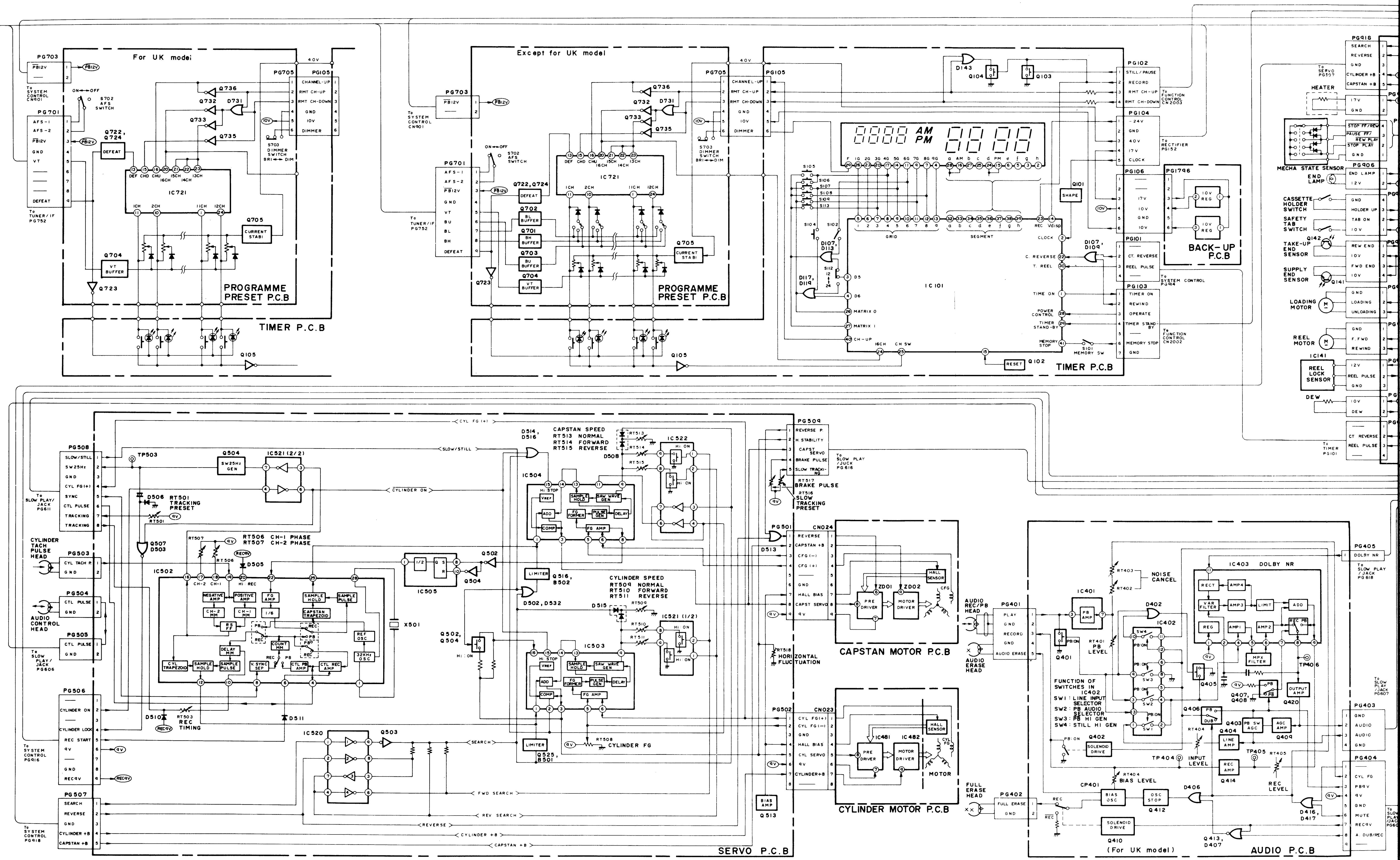
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with *, use specified ones stated on parts list since required temperature characteristics.

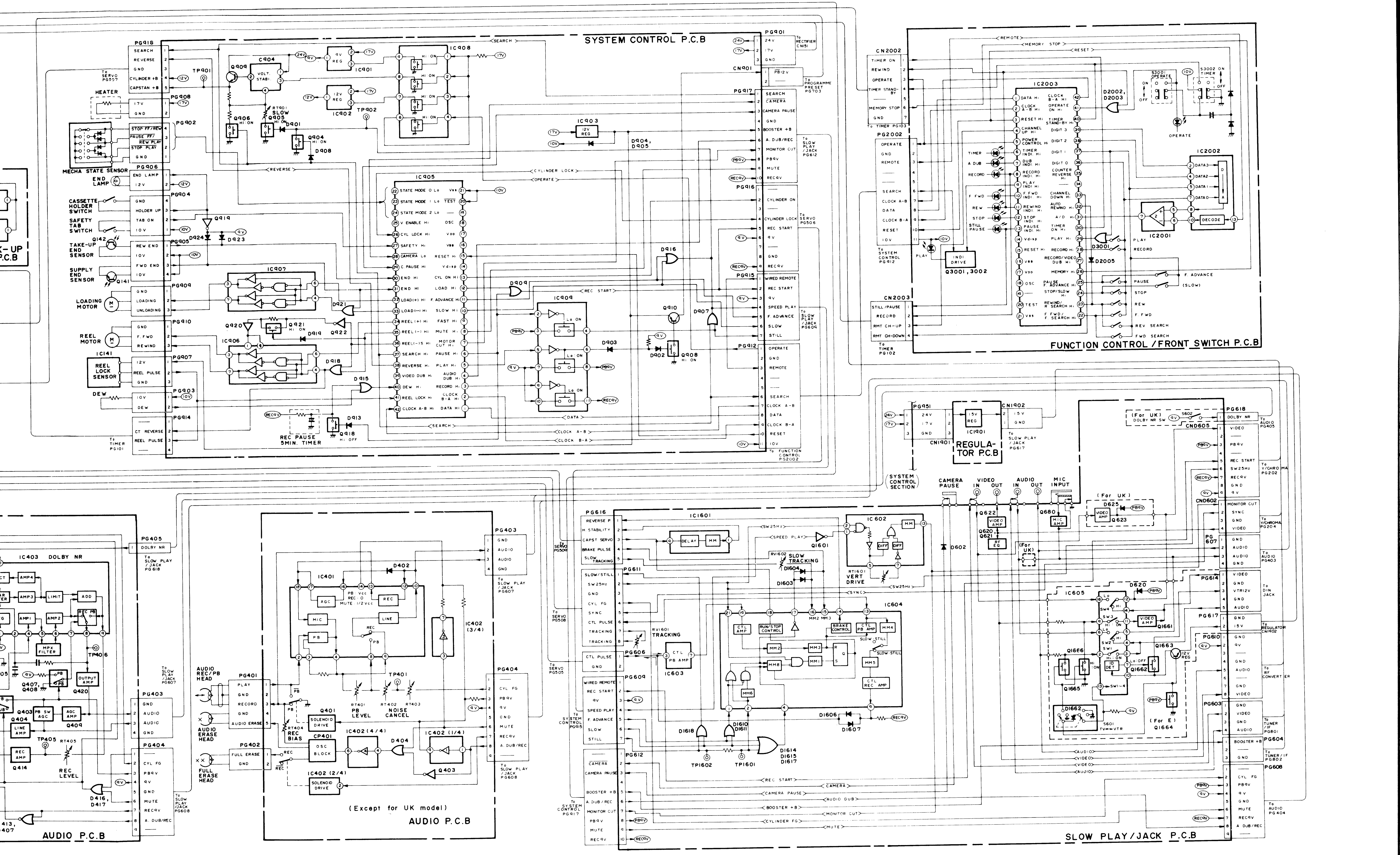
Cautions on use of MOS IC

1. The MOS IC is inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during their storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
2. High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
3. The human body, clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so a workers should be grounded.
4. Be sure to ground measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

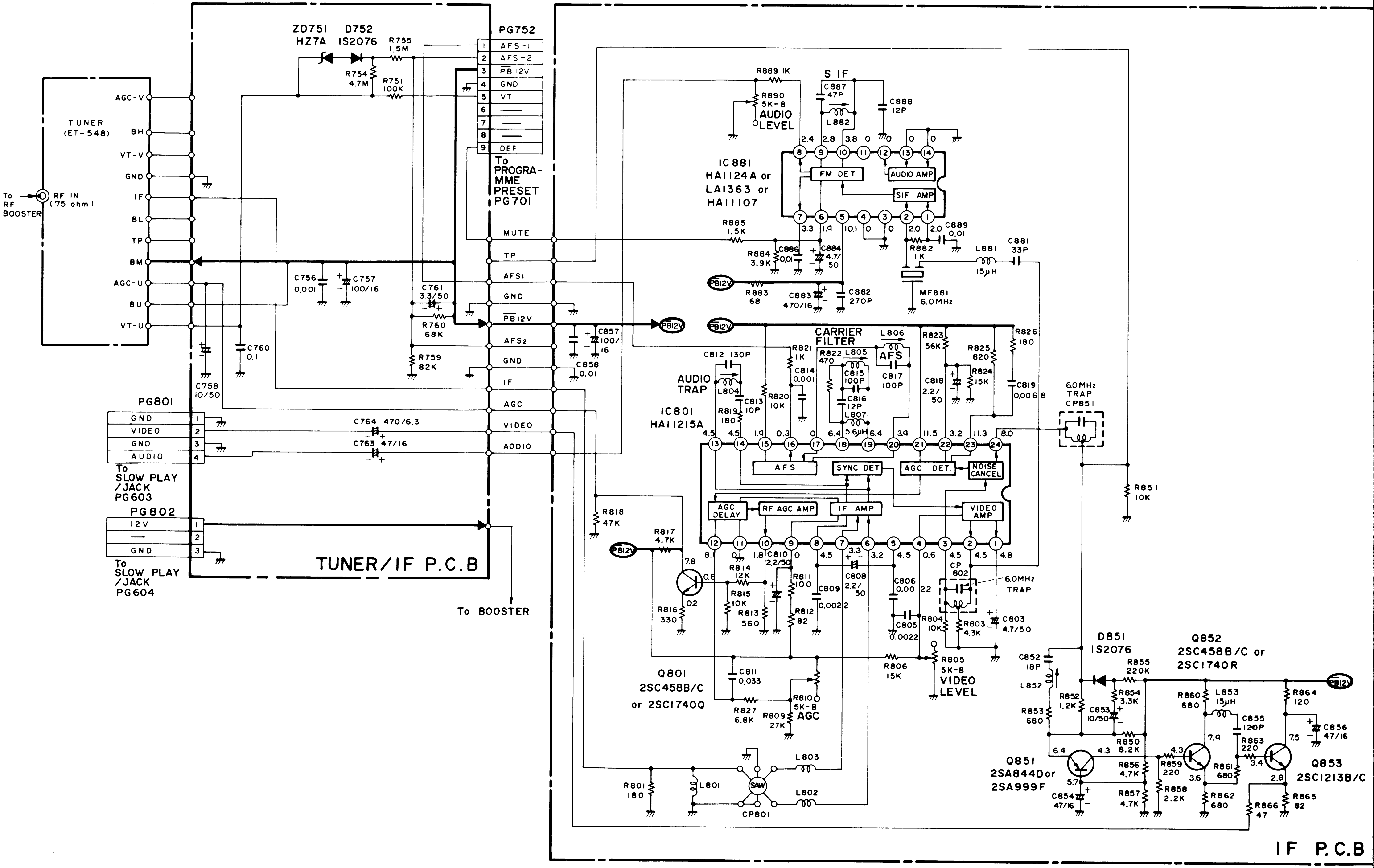
OVERALL BLOCK

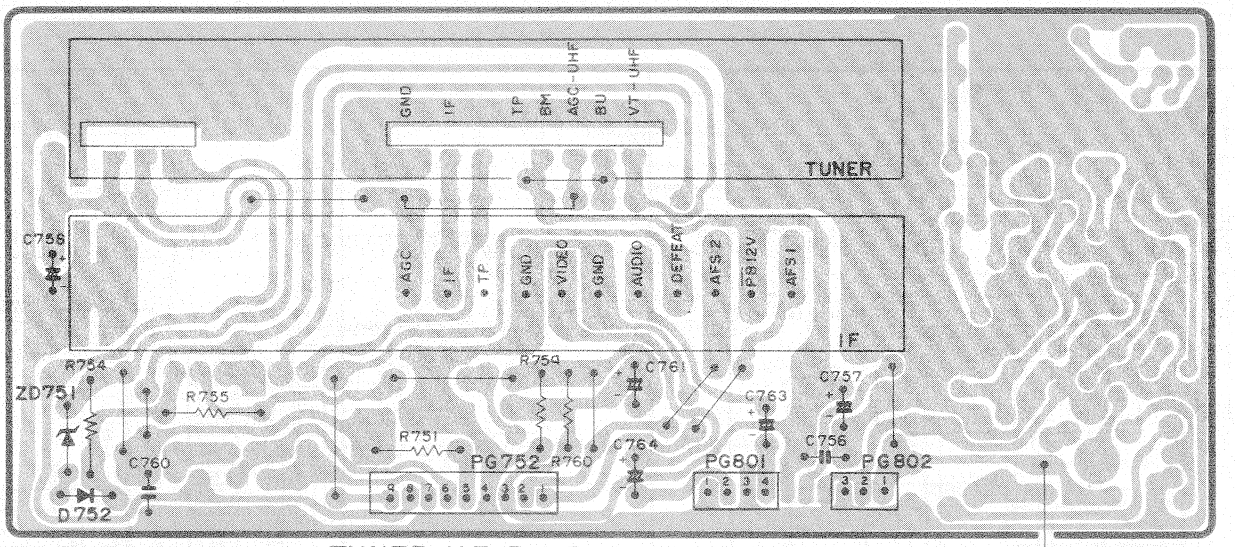

RF CONVERTER
IC1
IC2
Q1
CARRIER OSC
CLAMP
FM MOD
MIX
MOD
T2
RF OUT
TSG AMP
OSC
TSG SWITCH
ON
OFF
To SLOW PLAY / JACK PG610
GND
9V
AUDIO
VIDEO
TUNER P.C.B
For UK model
Except for UK model
ET-548
ET-541
PG802
PG801
PG752
BOOSTER +B
To RF BOOSTER
To SLOW PLAY / JACK PG604
To SLOW PLAY / JACK PG603
AGC VHF
VT-V
GND
IF
TP
BM
AGC UHF
VT UHF
RF IN
From BOOSTER
AFS 1
PB 12V
AFS 2
DEF
AUDIO
AGC
DEFEAT
To PROGRAMME PRESET PG701
Q851~Q853
VIDEO AMP
IF P.C.B
CP801 SAW FILTER
R805 VIDEO LEVEL
CP802
TRAP
MF881
FILTER
IC881
SIF AMP
FM DET
IF AMP
VIDEO AMP
NOISE CANCEL
AGC DET
SYNC DET
AFS
AGC DELAY
RF AGC DELAY SW
CP851
AGC DELAY SW
Q801
IC801
R810 AGC
L805
L806 AFS
CARRIER FILTER
CP802, CP851, MF881
For UK model 6MHz
Except for UK model 5.5MHz
T151 POWER TRANSFORMER
MAINS SWITCH
FU151 T630mA
S151
For UK 240V 50Hz
For E 220V 50Hz
RECTIFIER P.C.B
PG151
AC32V
AC14V
FU153
FU152
D157, D158
NEGATIVE RECT
D154, D155, D156
40V RECT
D152, D153
24V RECT
D151
ALL WAVE RECT
PG152
-24V
40V
17V
CLOCK
To TIMER PG104
CN151
24V
17V
To SYSTEM CONTROL PG901
Y/CHROMA P.C.B
COLOUR KILLER SIGNAL
REC CHROMA SIGNAL
Q357, 358 Q351~355
SYNC DET
COLOUR DET
(Except for UK model)
R375 SECAM DETECTION
Q218
KILLER VOLT
Q356
BUFFER
Q219, CP208
4.43MHz BPF
TP213
Q217
CP207
2H DELAY
Q215, Q216
CHROMA AMP
R261 PB CHROMA LEVEL
TP207
IC203
BUFFER
4.43MHz OSC
REC φ DET2
BURST GATE PULSE GEN
1/2 PULSE KILLER
ACC AMP
REC MAIN CONV KILLER AMP
KILLER AMP
KILLER DET
1/4
160fH VCO
PB φ DET
ACC DET
4 φ LOGIC
GATE
REC φ DET-1
PB DECODE
SW AMP
PB KILLER AMP
SUB CONV
1/160
PB 1/4
PB 1/8
PB MAIN CONV
REC AMP
Q234, Q235
4.44MHz OSC
C272 4.44MHz APC Fo
TP208
CP210
5.06MHz BPF
Q225
Q226
CHROMA AMP
TP211
CP209
1.5MHz LPF
Q211
D204
Q220
CLAMP
Q210
IC202
VIDEO AMP
DYNAMIC DEEMPH
NOISE CLIP
YC MIX
SQUELCH
EE VIDEO AMP
PEAK CLIP
SYNC SEPA
AGC COMPEN
PULSE DELAY
AGC DET
AGC AMP
CLAMP
HI PASS LIMIT
LIMIT
FM DEMOD
PB LEAKAGE PREVENT
V. SAG COMPEN
CP206
DELAY
CP205
3.4MHz LPF
Q213, Q214
MONITOR CUT
Q212
Q227
PHASE EQ
SW25Hz SIGNAL
PB CHROMA SIGNAL
REC VIDEO SIGNAL
TP214
1.5MHz LPF
R291 REC CHROMA LEVEL
Q207
Q206
Q205
Q201
YC MIX
Q202
FM EQ
R212 REC Y LEVEL
Q204
COLOUR AMP
Q203
B/W AMP
CP202
1.5MHz HPF
IC201
(PRE AMP)
CH-1 PRE AMP
CH-2 PRE AMP
EQ
D/W CLIP
FM MOD
FEED BACK
MAIN PREEMPH
LIMIT
SW AMP
REC AMP
DYNAMIC PREEMPH
CLAMP
DO DET
RECT LPF
DO LIMIT
HPF
DO SW
DO SW AMP
AGC DET
AGC
1H DELAY
CP204
PB EQ
Q208, Q209
TP202
PG201
CH-1 REC
CH-1 PB
CH-2 PB
CH-2 REC
CN014
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
PG202
VIDEO
PB9V
REC START
SW25Hz
REC9V
To SLOW PLAY / JACK CND605
PG204
MONITOR CUT
SYNC
To SLOW PLAY / JACK CND602
PG203
COLOUR
CN203
AUTO
REAR SWITCH


For UK model
Except for UK model
PROGRAMME PRESET P.C.B
TIMER P.C.B
BACK-UP P.C.B
SERVO P.C.B
CAPSTAN MOTOR P.C.B
CYLINDER MOTOR P.C.B
AUDIO P.C.B
PG703
PG701
PG705
PG105
PG102
PG104
PG106
PG1796
PG101
PG103
PG918
PG906
PG508
PG503
PG504
PG505
PG506
PG507
PG509
PG501
PG502
PG401
PG402
PG403
PG404
PG405
IC721
IC101
IC502
IC504
IC503
IC505
IC520
IC521 (2/2)
IC521 (1/2)
IC522
IC401
IC402
IC403 DOLBY NR
IC141
S702 AFS SWITCH
S703 DIMMER SWITCH
Q705 CURRENT STABI
Q704 VT BUFFER
Q722, Q724 DEFEAT
Q723
Q105
Q102 RESET
Q101 SHAPE
S101 MEMORY SW
To SYSTEM CONTROL CN901
To TUNER/IF PG752
To FUNCTION CONTROL CN2003
To RECTIFIER PG152
To SYSTEM CONTROL PG914
To FUNCTION CONTROL CN2002
HEATER
MECHA STATE SENSOR
END LAMP
CASSETTE HOLDER SWITCH
SAFETY TAB SWITCH
TAKE-UP END SENSOR
SUPPLY END SENSOR
LOADING MOTOR
REEL MOTOR
REEL LOCK SENSOR
DEW
CYLINDER TACH PULSE HEAD
AUDIO CONTROL HEAD
TP503
D506 RT501 TRACKING PRESET
Q507 D503
RT506 CH-1 PHASE
RT507 CH-2 PHASE
Q504 SW25Hz GEN
CAPSTAN SPEED RT513 NORMAL RT514 FORWARD RT515 REVERSE
CYLINDER SPEED RT509 NORMAL RT510 FORWARD RT511 REVERSE
D514, D516
D502, D532
Q516, B502 LIMITER
Q525, B501 LIMITER
X501
Q502, Q504
D510 RT503 REC TIMING
D511
Q503
RT508 CYLINDER FG
RT517 BRAKE PULSE
RT516 SLOW TRACKING PRESET
RT518 HORIZONTAL FLUCTUATION
Q513 BIAS AMP
HALL SENSOR
PRE DRIVER
MOTOR DRIVER
IC481 IC482
MOTOR
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
RT403 RT402 NOISE CANCEL
RT401 PB LEVEL
Q401
FUNCTION OF SWITCHES IN IC402
SW1 : LINE INPUT SELECTOR
SW2 : PB AUDIO SELECTOR
SW3 : PB HI GEN
SW4 : STILL HI GEN
Q402 SOLENOID DRIVE
RT404 BIAS LEVEL
CP401 BIAS OSC
Q412 OSC STOP
Q410 SOLENOID DRIVE (For UK model)
Q413, D407
D406
D416, D417
Q405
Q406 PB DUB
Q407, Q408
Q420 OUTPUT AMP
Q403 PB SW AGC
Q409 AGC AMP
Q404 LINE AMP
Q414 REC AMP
TP404 INPUT LEVEL
TP405 RT405 REC LEVEL
TP406
MPX FILTER
To SLOW PLAY/JACK PG611
To SLOW PLAY/JACK PG606
To SYSTEM CONTROL PG916
To SYSTEM CONTROL PG918
To SLOW PLAY/JUCK PG616
To SLOW PLAY/JACK PG618
To SLOW PLAY/JACK PG607
To TIMER PG101
To SERVO PG507


SYSTEM CONTROL P.C.B
FUNCTION CONTROL / FRONT SWITCH P.C.B
AUDIO P.C.B
SLOW PLAY/JACK P.C.B
REGULATOR P.C.B
(SYSTEM CONTROL SECTION)
IC905
IC907
IC906
IC908
IC909
IC901
IC902
IC903
IC2003
IC2002
IC2001
IC1901
IC403 DOLBY NR
IC401
IC402 (3/4)
IC402 (4/4)
IC402 (1/4)
IC402 (2/4)
IC1601
IC602
IC604
IC605
IC603
HEATER
MECHA STATE SENSOR
END LAMP
CASSETTE HOLDER SWITCH
SAFETY TAB SWITCH
TAKE-UP END SENSOR
SUPPLY END SENSOR
LOADING MOTOR
REEL MOTOR
REEL LOCK SENSOR
DEW
REC PAUSE 5MIN. TIMER
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PB LEVEL
NOISE CANCEL
REC BIAS
REC LEVEL
SOLENOID DRIVE
OSC BLOCK
(Except for UK model)
CAMERA PAUSE
VIDEO IN OUT
AUDIO IN OUT
MIC INPUT
SLOW TRACKING
TRACKING
VERT DRIVE
CTL PB AMP
(For UK)
(For E)
S601 TV↔VTR
OPERATE
DECODE
INDI DRIVE
Q3001,3002
PG916
PG908
PG902
PG906
PG904
PG905
PG909
PG910
PG907
PG903
PG914
PG901
CN901
PG917
PG915
PG912
CN2002
PG2002
CN2003
PG951
CN1902
CN1901
PG618
CND605
CND602
PG607
PG614
PG617
PG610
PG603
PG604
PG608
PG616
PG611
PG606
PG609
PG612
PG405
PG403
PG404
PG401
PG402
To SERVO PG507
To TIMER PG101
To RECTIFIER CN151
To PROGRAMME PRESET PG703
To SLOW PLAY /JACK PG612
To SERVO PG506
To SLOW PLAY /JACK PG604
To FUNCTION CONTROL PG2002
To TIMER PG103
To SYSTEM CONTROL PG912
To TIMER PG102
To SLOW PLAY /JACK PG617
To AUDIO PG405
To Y/CHROMA PG202
To Y/CHROMA PG204
To AUDIO PG403
To DIN JACK
To REGULATOR CN1902
To RF CONVERTER
To TUNER /IF PG801
To TUNER/IF PG802
To AUDIO PG404
To SERVO PG509
To SERVO PG508
To SERVO PG505
To SYSTEM CONTROL PG915
To SYSTEM CONTROL PG917
To SLOW PLAY / JACK PG618
To SLOW PLAY / JACK PG607
To SLOW PLAY / JACK PG608

TUNER/IF (For UK model)


ZD751 HZ7A
D752 1S2076
R755 1.5M
R754 4.7M
R751 100K
PG752
1 AFS-1
2 AFS-2
3 PB12V
4 GND
5 VT
6
7
8
9 DEF
To PROGRAMME PRESET PG701
TUNER (ET-548)
AGC-V
BH
VT-V
GND
IF
BL
TP
BM
AGC-U
BU
VT-U
To RF BOOSTER
RF IN (75 ohm)
C756 0.001
C757 100/16
C761 3.3/50
R760 68K
R759 82K
C760 0.1
C758 10/50
MUTE
TP
AFS1
GND
PB12V
AFS2
GND
IF
AGC
VIDEO
AUDIO
C857 100/16
C858 0.01
PG801
1 GND
2 VIDEO
3 GND
4 AUDIO
To SLOW PLAY /JACK PG603
C764 470/6.3
C763 47/16
PG802
1 12V
2
3 GND
To SLOW PLAY /JACK PG604
TUNER/IF P.C.B
To BOOSTER
R889 1K
R890 5K-B AUDIO LEVEL
S IF
C887 47P
L882
C888 12P
IC881 HA1124A or LA1363 or HA11107
FM DET
AUDIO AMP
SIF AMP
R885 1.5K
R884 3.9K
C886 0.01
C884 4.7/50
R883 68
C883 470/16
C882 270P
R882 1K
C889 0.01
L881 15μH
C881 33P
MF881 6.0MHz
CARRIER FILTER
L806
AFS
C812 130P
AUDIO TRAP
L804
C813 10P
R819 180
R821 1K
C814 0.001
R820 10K
R822 470
L805
C815 100P
C816 12P
L807 5.6μH
C817 100P
R823 56K
C818 2.2/50
R824 15K
R825 820
R826 180
C819 0.0068
6.0MHz TRAP CP851
IC801 HA11215A
AFS
SYNC DET
AGC DET.
NOISE CANCEL
AGC DELAY
RF AGC AMP
IF AMP
VIDEO AMP
R851 10K
R818 47K
R817 4.7K
R814 12K
R815 10K
R813 560
R816 330
C810 2.2/50
R811 100
R812 82
C809 0.0022
C808 2.2/50
C806 0.00
C805 0.0022
R804 10K
CP 802
6.0MHz TRAP
R803 4.3K
C803 4.7/50
R806 15K
R805 5K-B VIDEO LEVEL
Q801 2SC458B/C or 2SC1740Q
C811 0.033
R827 6.8K
R809 27K
R810 5K-B AGC
R801 180
L801
SAW
CP801
L803
L802
D851 1S2076
Q852 2SC458B/C or 2SC1740R
C852 18P
L852
R852 1.2K
R853 680
R855 220K
R854 3.3K
C853 10/50
R850 8.2K
Q851 2SA844D or 2SA999F
C854 47/16
R856 4.7K
R857 4.7K
R859 220
R858 2.2K
R860 680
L853 15μH
C855 120P
R863 220
R861 680
R862 680
R864 120
C856 47/16
Q853 2SC1213B/C
R866 47
R865 82
IF P.C.B


GND
IF
TP
BM
AGC-UHF
BU
VT-UHF
TUNER
C758
AGC
IF
TP
GND
VIDEO
GND
AUDIO
DEFEAT
AFS 2
PB 12V
AFS 1
IF
R754
ZD751
R755
R759
C761
C757
C763
R751
C760
D752
PG752
R760
C764
PG801
C756
PG802
9 8 7 6 5 4 3 2 1
1 2 3 4
3 2 1

TUNER/IF P.C.B

To BOOSTER

	PG752
1	AFS 1
2	AFS 2
3	PB 12V
4	GND
5	VT
6	——
7	——
8	——
9	DEFEAT

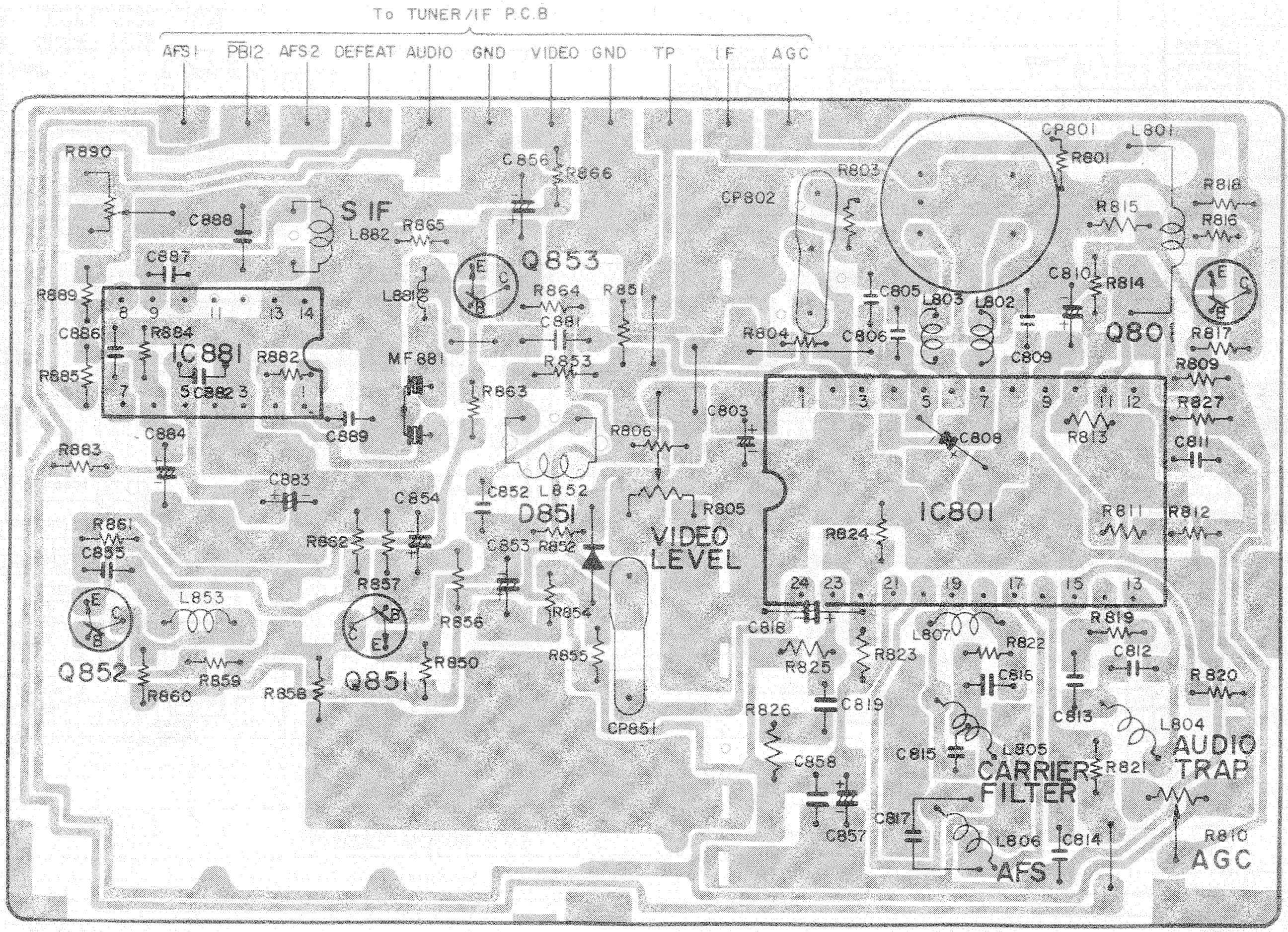
To
PROGRAMME
PRESET
PG701

	PG801
1	GND
2	VIDEO
3	GND
4	AUDIO

To
SLOW
PLAY
/JACK
PG603

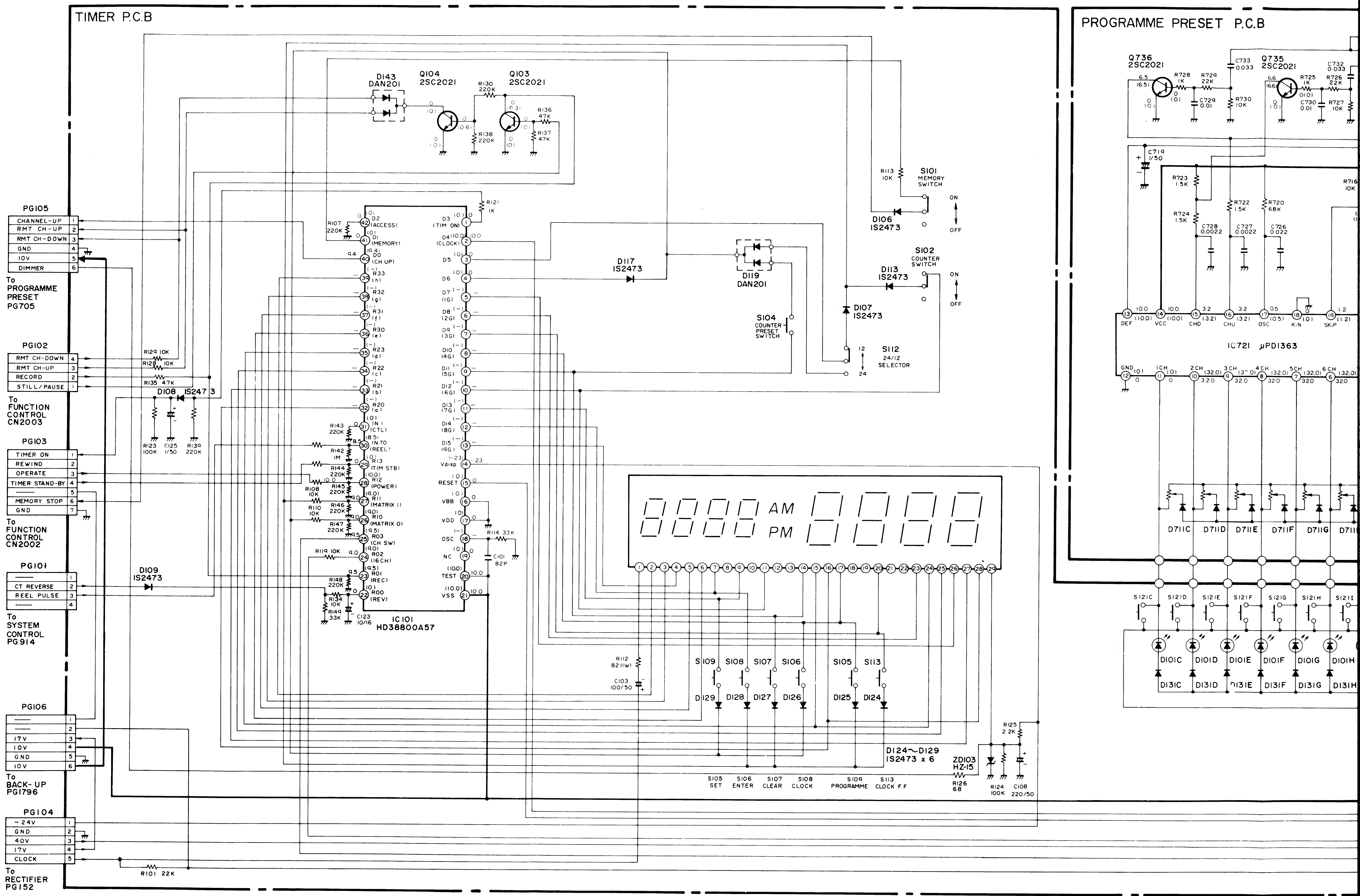
	PG802
1	BOOSTER +B
2	——
3	GND

To
SLOW PLAY
/JACK
PG604

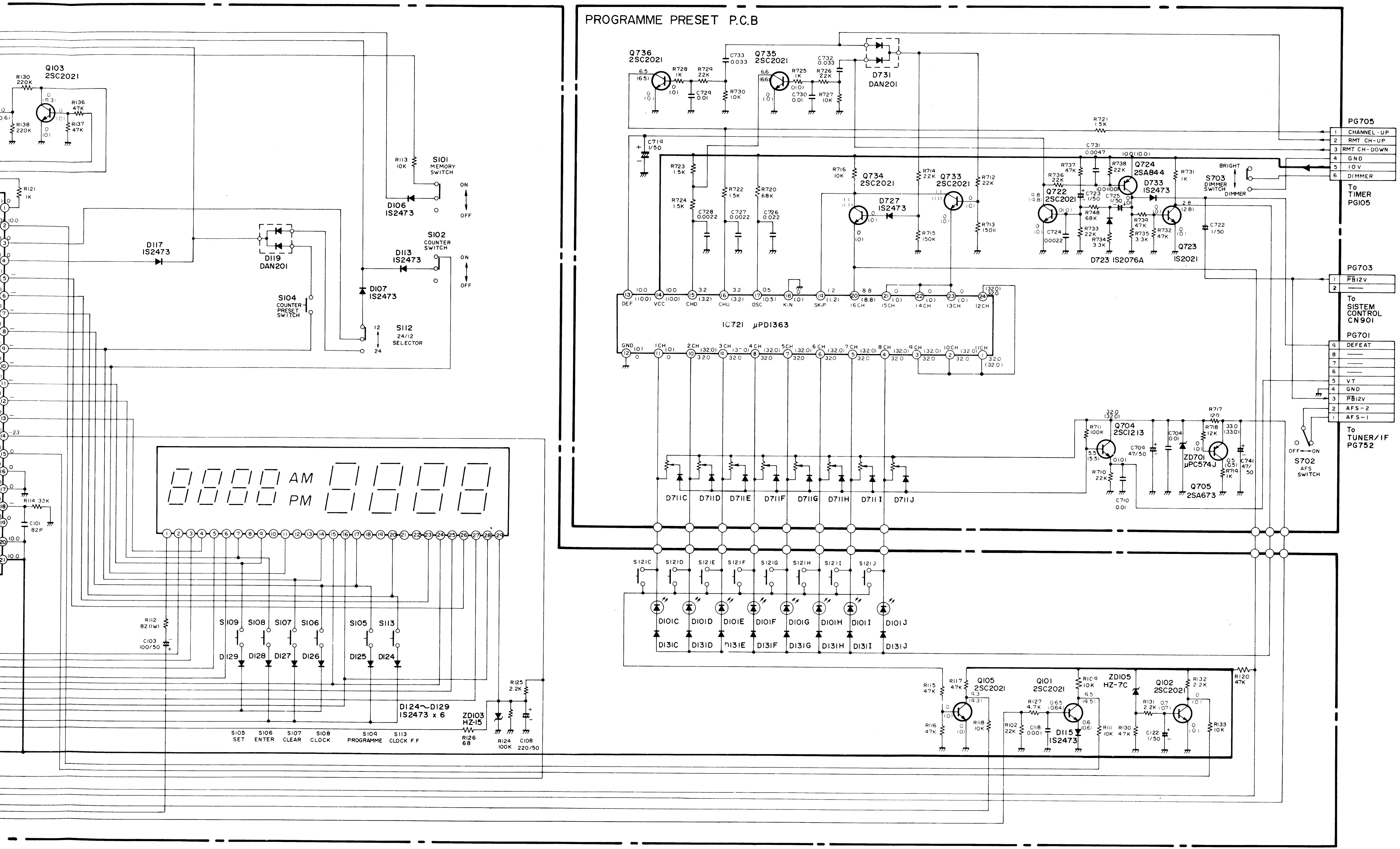

To TUNER/IF P.C.B
AFS1
PB12
AFS2
DEFEAT
AUDIO
GND
VIDEO
GND
TP
IF
AGC
R890
C888
S IF
L882
R865
C856
R866
CP802
R803
CP801
L801
R801
R818
R815
R816
C887
R889
8 9 11 13 14
IC881
C886
R884
R885
7
5 C882 3
R882
1
Q853
L881
R864
R851
C881
C805
L803
L802
C810
R814
Q801
E C B
R804
C806
C809
R817
R809
MF881
R853
R863
1 3 5 7 9 11 12
R827
R883
C884
C889
R806
C803
C808
R813
C811
C883
C852
L852
R805
C854
D851
IC801
R861
C855
R862
C853
R852
VIDEO
LEVEL
R824
R811
R812
R857
24 23 21 19 17 15 13
L853
R856
R854
C818
L807
R819
R822
C812
Q852
R859
R860
R858
Q851
R850
R855
R825
R823
C816
R820
CP851
R826
C819
C813
L804
C815
L805
CARRIER
FILTER
R821
AUDIO
TRAP
C858
C857
C817
L806
C814
AFS
R810
AGC

IF P.C.B

TIMER/PROGRAMME PRESET (For UK model)

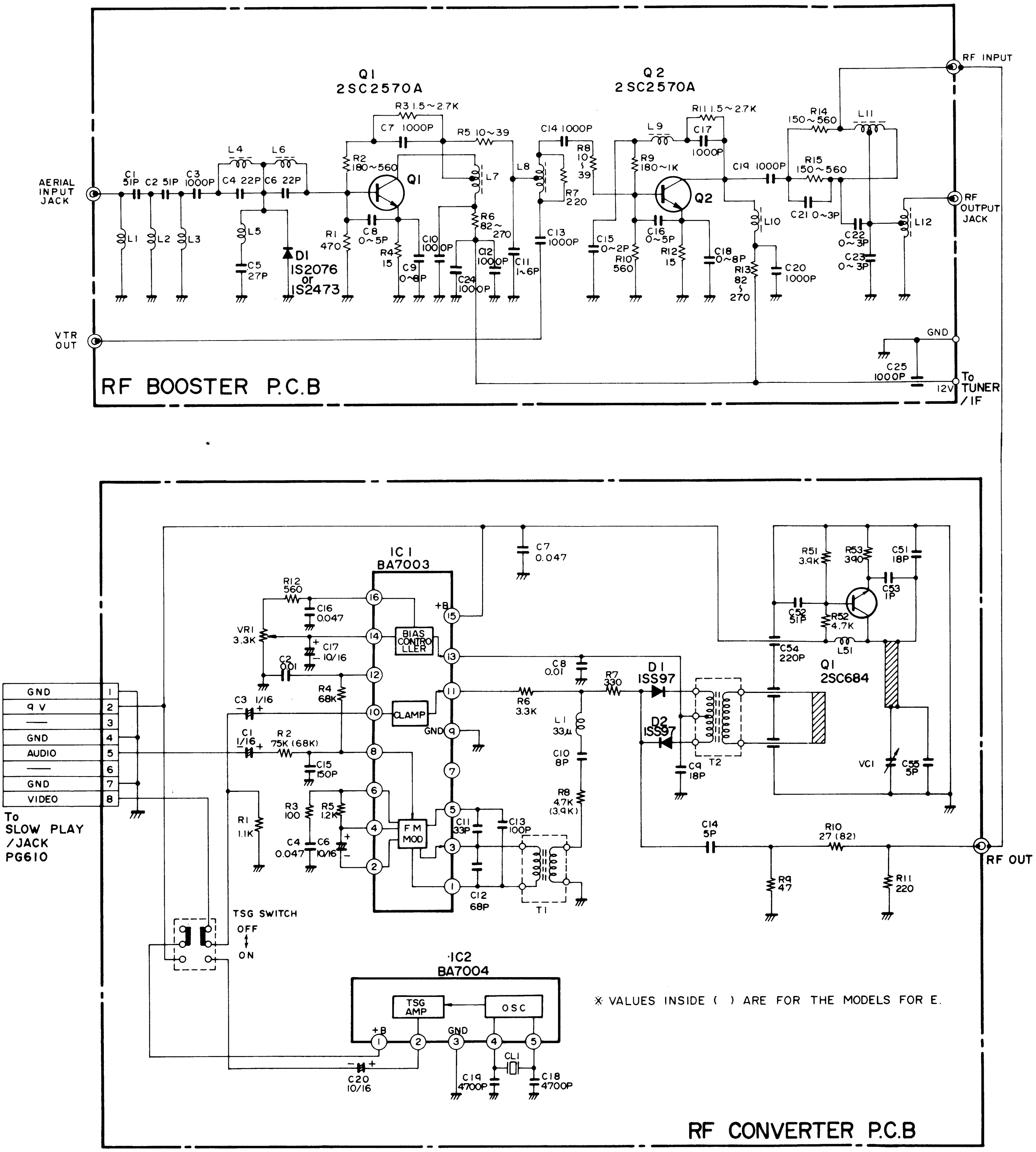

TIMER P.C.B
PROGRAMME PRESET P.C.B
PG105
CHANNEL-UP 1
RMT CH-UP 2
RMT CH-DOWN 3
GND 4
10V 5
DIMMER 6
To PROGRAMME PRESET PG705
PG102
RMT CH-DOWN 4
RMT CH-UP 3
RECORD 2
STILL/PAUSE 1
To FUNCTION CONTROL CN2003
PG103
TIMER ON 1
REWIND 2
OPERATE 3
TIMER STAND-BY 4
MEMORY STOP 6
GND 7
To FUNCTION CONTROL CN2002
PG101
CT REVERSE 2
REEL PULSE 3
To SYSTEM CONTROL PG914
PG106
17V 3
10V 4
GND 5
10V 6
To BACK-UP PG1796
PG104
-24V 1
GND 2
40V 3
17V 4
CLOCK 5
To RECTIFIER PG152
R101 22K
D143 DAN201
Q104 2SC2021
Q103 2SC2021
R130 220K
R136 47K
R137 47K
R138 220K
R121 1K
R107 220K
R129 10K
R128 10K
R135 47K
D108 IS2473
R123 100K
C125 1/50
R139 220K
D109 IS2473
R143 220K
R142 1M
R144 220K
R108 10K
R145 220K
R110 10K
R146 220K
R147 220K
R119 10K
R148 220K
R134 10K
R149 33K
C123 10/16
IC101 HD38800A57
R114 33K
C101 82P
R113 10K
S101 MEMORY SWITCH
ON OFF
D106 IS2473
D117 IS2473
D119 DAN201
S102 COUNTER SWITCH
D113 IS2473
D107 IS2473
S104 COUNTER PRESET SWITCH
S112 24/12 SELECTOR
12 24
AM PM
R112 82 (1W)
C103 100/50
S109 S108 S107 S106 S105 S113
D129 D128 D127 D126 D125 D124
D124~D129 IS2473 x 6
S105 SET
S106 ENTER
S107 CLEAR
S108 CLOCK
S109 PROGRAMME
S113 CLOCK F.F
R125 2.2K
ZD103 HZ-15
R126 68
R124 100K
C108 220/50
Q736 2SC2021
Q735 2SC2021
C733 0.033
C732 0.033
R728 1K
R729 22K
R725 1K
R726 22K
C729 0.01
R730 10K
C730 0.01
R727 10K
C719 1/50
R723 1.5K
R724 1.5K
R722 1.5K
R720 68K
R716 10K
C728 0.0022
C727 0.0022
C726 0.022
IC721 μPD1363
DEF VCC CHD CHU OSC KIN SKIP
GND 1CH 2CH 3CH 4CH 5CH 6CH
D711C D711D D711E D711F D711G
S121C S121D S121E S121F S121G S121H
D101C D101D D101E D101F D101G D101H
D131C D131D D131E D131F D131G D131H

X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN (


PROGRAMME PRESET P.C.B
Q103 2SC2021
R130 220K
R136 47K
R137 47K
R138 220K
R121 1K
R113 10K
S101 MEMORY SWITCH
ON
OFF
D106 IS2473
D117 IS2473
D119 DAN201
S102 COUNTER SWITCH
D113 IS2473
D107 IS2473
S104 COUNTER PRESET SWITCH
S112 24/12 SELECTOR
R114 33K
C101 82P
AM
PM
R112 82 (1W)
C103 100/50
S109
S108
S107
S106
S105
S113
D129
D128
D127
D126
D125
D124
D124～D129 IS2473 x 6
ZD103 HZ-15
R126 68
R125 2.2K
R124 100K
C108 220/50
S105 SET
S106 ENTER
S107 CLEAR
S108 CLOCK
S109 PROGRAMME
S113 CLOCK F.F
Q736 2SC2021
Q735 2SC2021
R728 1K
R729 22K
C729 0.01
C733 0.033
R730 10K
R725 1K
R726 22K
C730 0.01
R727 10K
C732 0.033
D731 DAN201
C719 1/50
R723 1.5K
R724 1.5K
C728 0.0022
R722 1.5K
C727 0.0022
R720 68K
C726 0.022
R716 10K
Q734 2SC2021
D727 IS2473
R714 22K
Q733 2SC2021
R715 150K
R712 22K
R713 150K
R721 1.5K
C731 0.0047
R737 47K
R736 22K
R738 22K
Q724 2SA844
D733 IS2473
R731 1K
Q722 2SC2021
C723 1/50
C725 1/50
R748 68K
C724 0.0022
R733 22K
R734 3.3K
R739 47K
R735 3.3K
R732 47K
Q723 IS2021
C722 1/50
D723 IS2076A
S703 DIMMER SWITCH
BRIGHT
DIMMER
PG705
CHANNEL-UP
RMT CH-UP
RMT CH-DOWN
GND
10V
DIMMER
To TIMER PG105
PG703
PB12V
To SISTEM CONTROL CN901
PG701
DEFEAT
VT
GND
PB12V
AFS-2
AFS-1
To TUNER/IF PG752
IC721 μPD1363
DEF
VCC
CHD
CHU
OSC
KIN
SKIP
16CH
15CH
14CH
13CH
12CH
GND
1CH
2CH
3CH
4CH
5CH
6CH
7CH
8CH
9CH
10CH
11CH
R711 100K
Q704 2SC1213
R710 22K
C710 0.01
C709 47/50
C704 0.01
R717 120
R718 12K
ZD701 μPC574J
R719 1K
C741 47/50
Q705 2SA673
S702 AFS SWITCH
OFF
ON
D711C
D711D
D711E
D711F
D711G
D711H
D711I
D711J
S121C
S121D
S121E
S121F
S121G
S121H
S121I
S121J
D101C
D101D
D101E
D101F
D101G
D101H
D101I
D101J
D131C
D131D
D131E
D131F
D131G
D131H
D131I
D131J
R115 47K
R117 47K
Q105 2SC2021
R116 47K
R118 10K
Q101 2SC2021
R127 4.7K
R102 22K
C118 0.001
D115 IS2473
R109 10K
R111 10K
ZD105 HZ-7C
R130 47K
R131 2.2K
C122 1/50
Q102 2SC2021
R132 2.2K
R133 10K
R120 47K

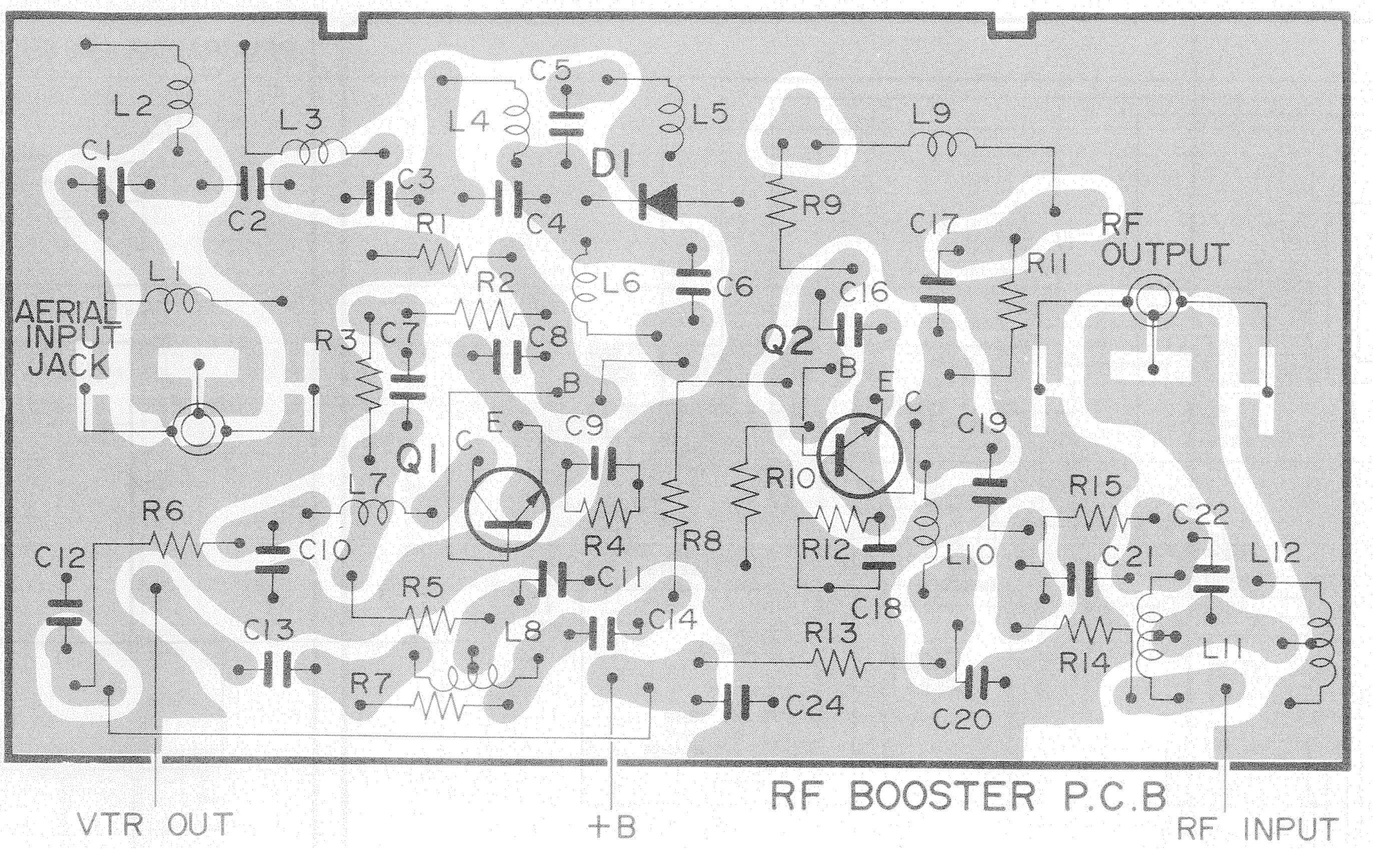
X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

RF BOOSTER/RF CONVERTER

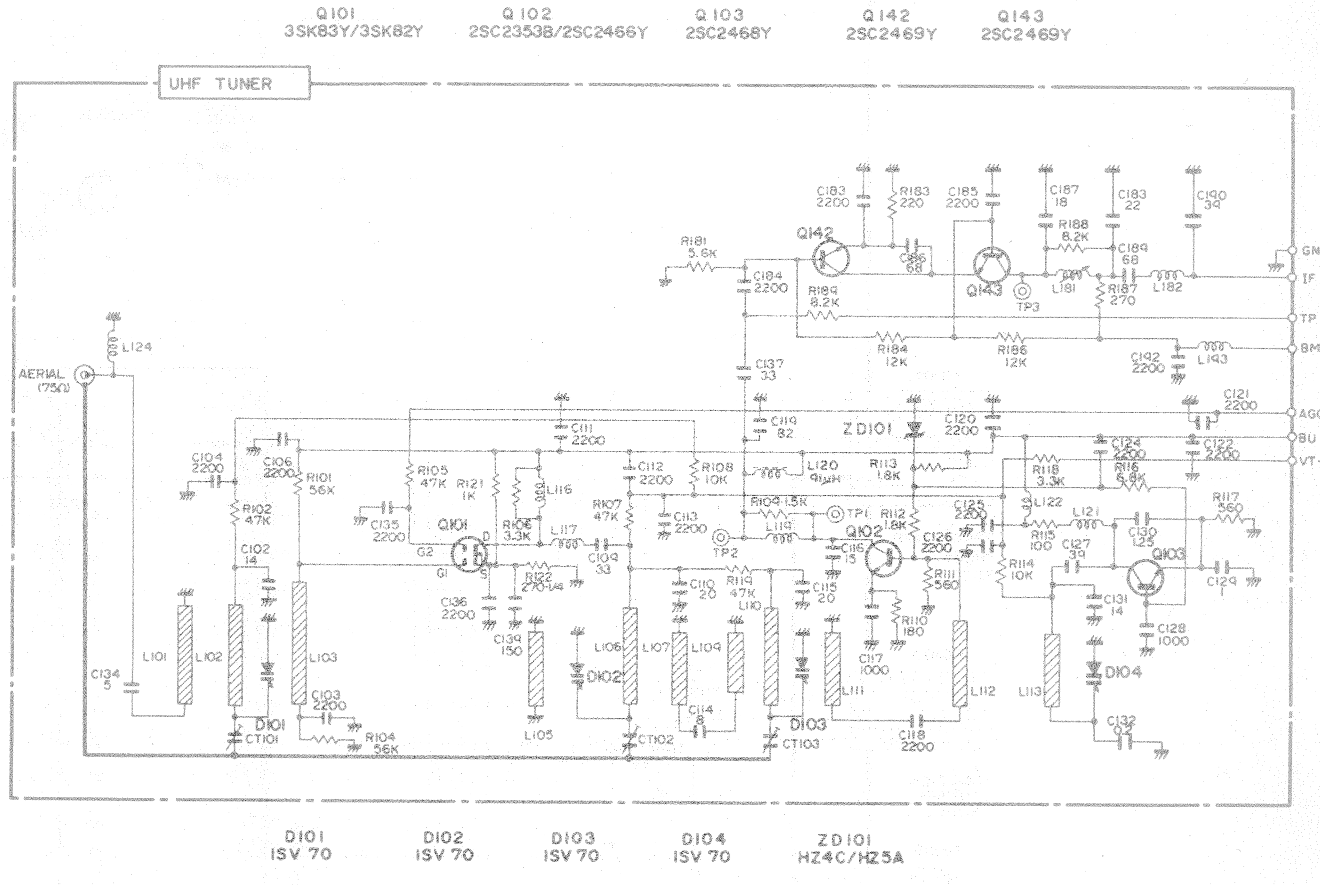


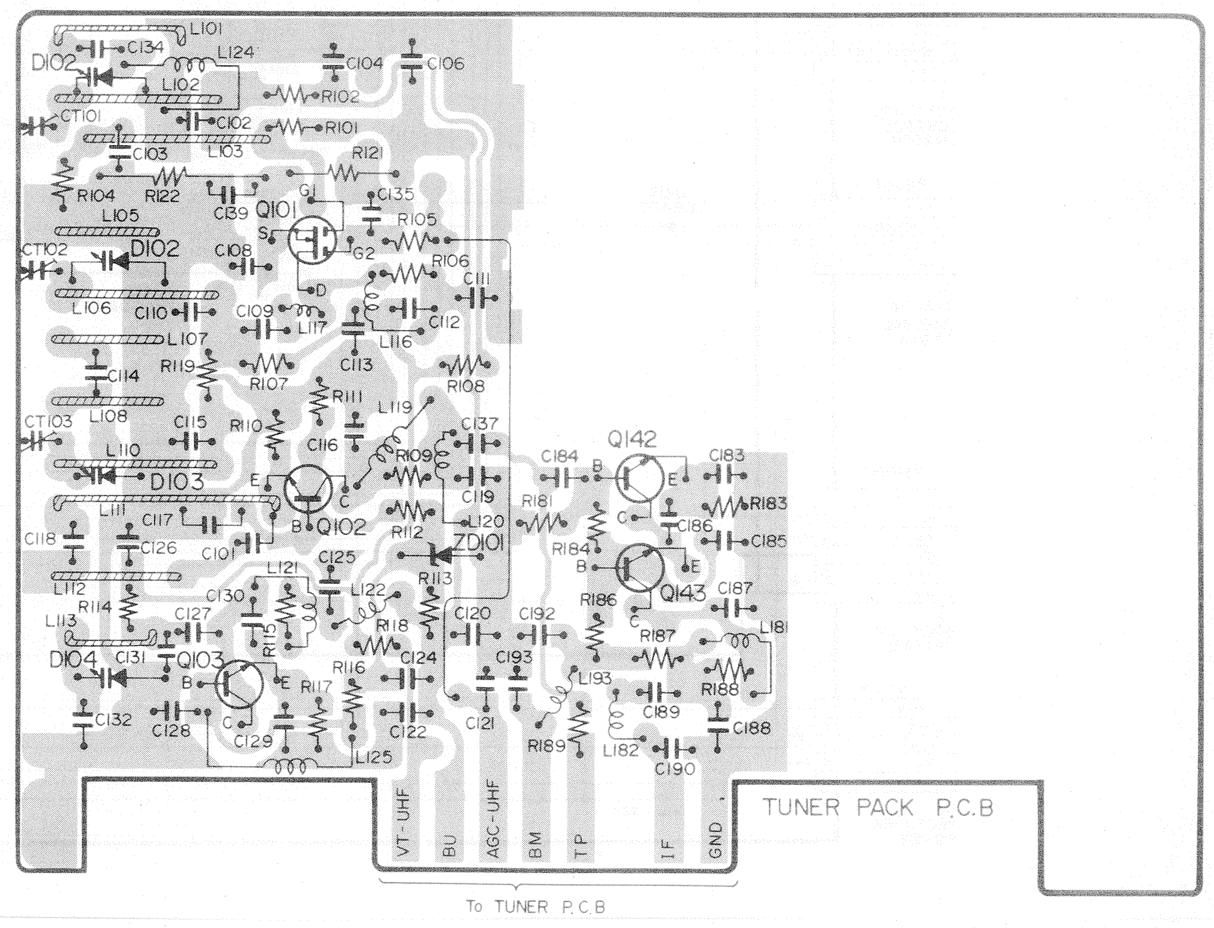
RF INPUT
Q1
2SC2570A
Q2
2SC2570A
R3 1.5~2.7K
C7 1000P
R5 10~39
C14 1000P
R8 10~39
R11 1.5~2.7K
C17 1000P
R14 150~560
L11
L4
L6
L8
L9
AERIAL INPUT JACK
C1 51P
C2 51P
C3 1000P
C4 22P
C6 22P
R2 180~560
L7
R7 220
R9 180~1K
C19 1000P
R15 150~560
RF OUTPUT JACK
L1
L2
L3
L5
C5 27P
D1 1S2076 or 1S2473
R1 470
C8 0~5P
R4 15
C9 0~8P
C10 1000P
C24 1000P
R6 82~270
C12 1000P
C11 1~6P
C13 1000P
C15 0~2P
R10 560
C16 0~5P
R12 15
C18 0~8P
L10
R13 82~270
C20 1000P
C21 0~3P
C22 0~3P
C23 0~3P
L12
VTR OUT
GND
C25 1000P
12V
To TUNER /IF
RF BOOSTER P.C.B
IC1 BA7003
C7 0.047
R12 560
C16 0.047
+B
VR1 3.3K
C17 10/16
BIAS CONTROLLER
C2 0.01
R4 68K
C3 1/16
CLAMP
C1 1/16
R2 75K (68K)
C15 150P
R3 100
R5 1.2K
C4 0.047
C6 10/16
FM MOD
R1 1.1K
C11 33P
C13 100P
C12 68P
T1
C8 0.01
R6 3.3K
R7 330
D1 1SS97
D2 1SS97
L1 33μ
C10 8P
C9 18P
R8 4.7K (3.9K)
T2
R51 3.9K
R53 390
C51 18P
C52 51P
R52 4.7K
C53 1P
C54 220P
L51
Q1 2SC684
VC1
C55 5P
C14 5P
R10 27 (82)
R9 47
R11 220
RF OUT
GND
9 V
AUDIO
VIDEO
1
2
3
4
5
6
7
8
To SLOW PLAY /JACK PG610
TSG SWITCH
OFF
ON
IC2 BA7004
TSG AMP
OSC
C20 10/16
C19 4700P
CL1
C18 4700P
RF CONVERTER P.C.B

※ VALUES INSIDE ( ) ARE FOR THE MODELS FOR E.

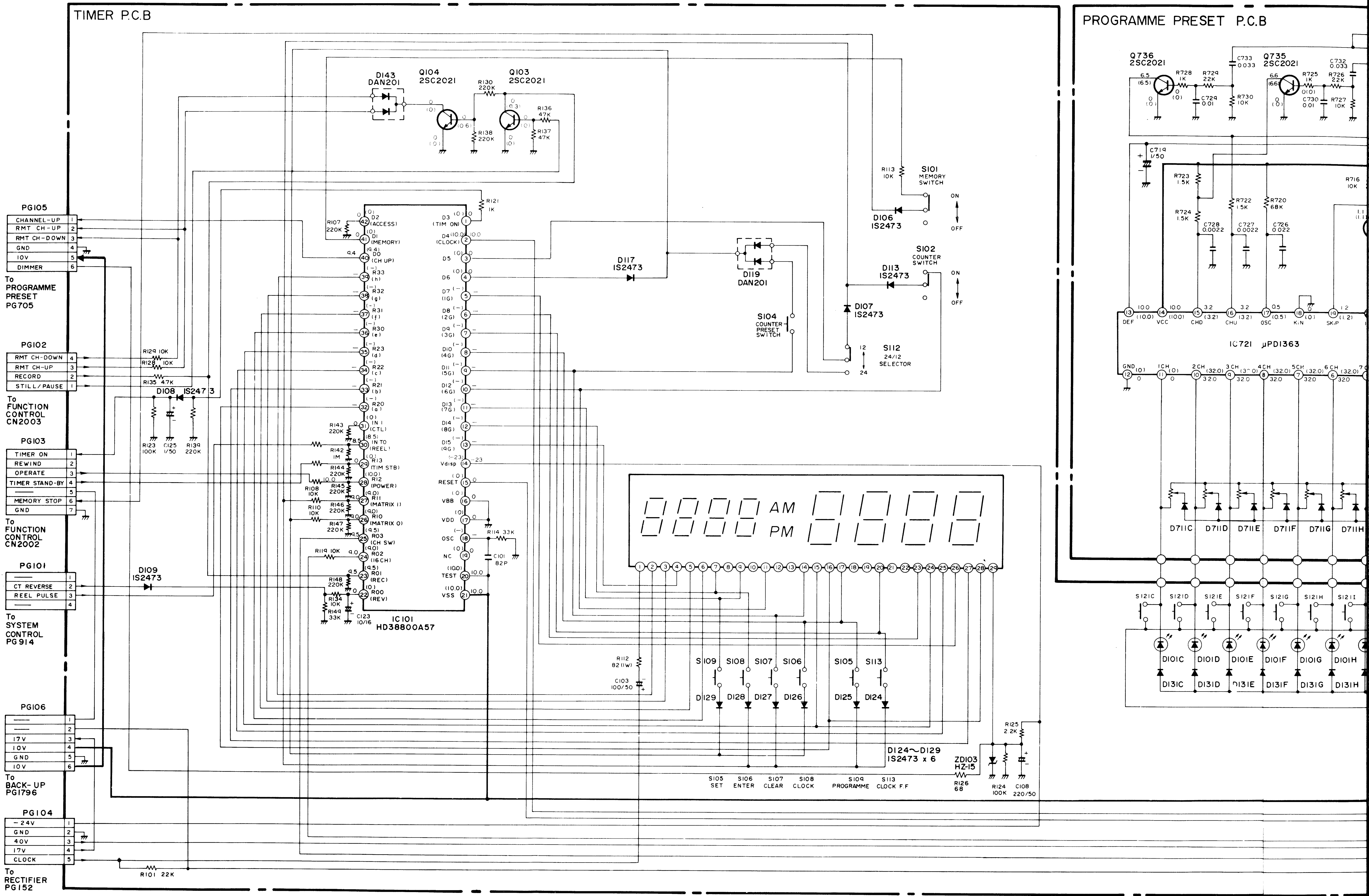

L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C16
C17
C18
C19
C20
C21
C22
C24
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
D1
Q1
Q2
E
B
C
AERIAL INPUT JACK
RF OUTPUT
RF BOOSTER P.C.B
VTR OUT
+B
RF INPUT

TUNER PACK ET-548 〔For the UK model〕

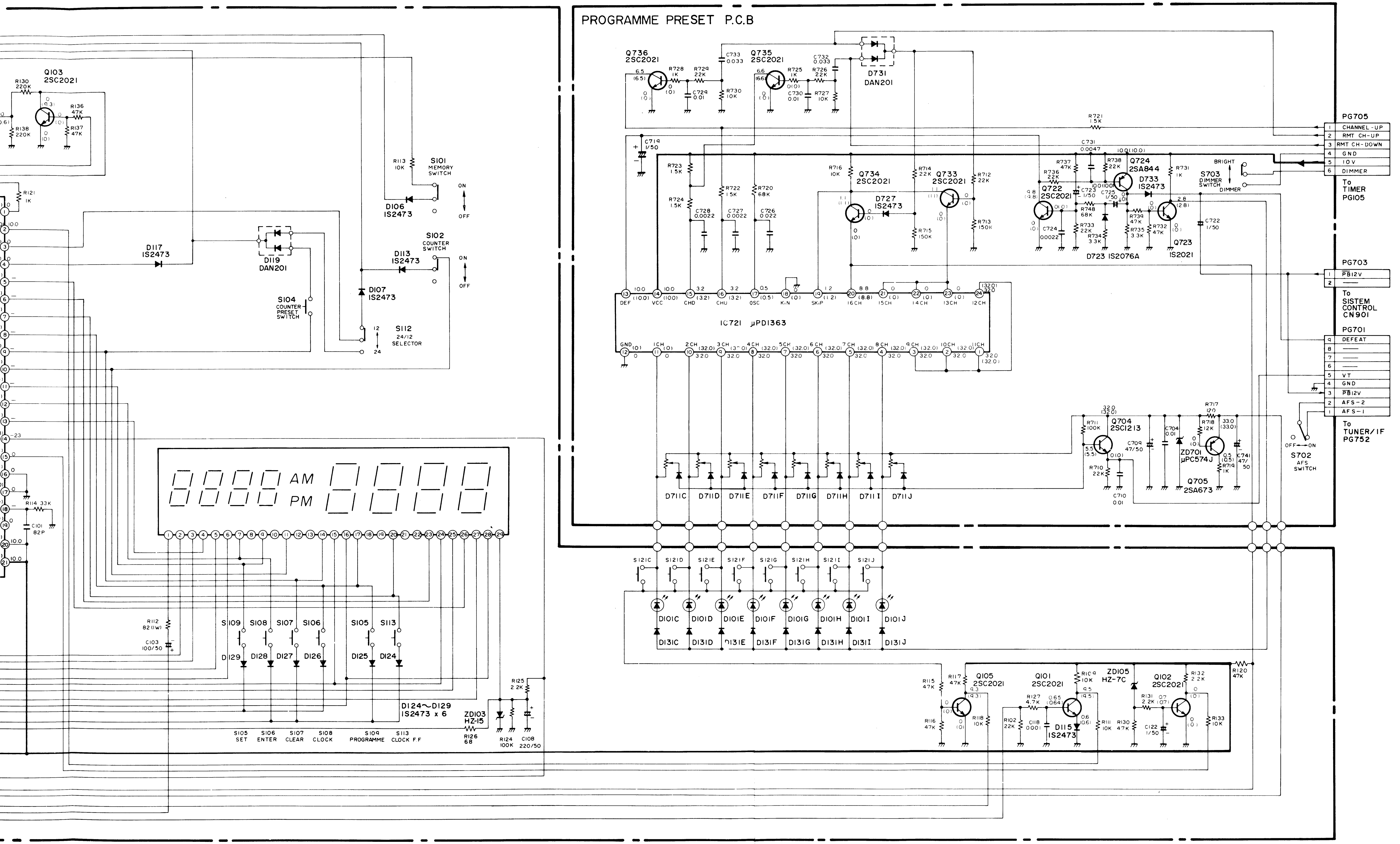

Q101 3SK83Y/3SK82Y
Q102 2SC2353B/2SC2466Y
Q103 2SC2468Y
Q142 2SC2469Y
Q143 2SC2469Y
UHF TUNER
AERIAL (75Ω)
GND
IF
TP
BM
AGC-U
BU
VT-U
TP1
TP2
TP3
ZD101
D101
D102
D103
D104
D101 ISV 70
D102 ISV 70
D103 ISV 70
D104 ISV 70
ZD101 HZ4C/HZ5A


Q101
Q102
Q103
Q142
Q143
D102
D103
D104
ZD101
CT101
CT102
CT103
VT-UHF
BU
AGC-UHF
BM
TP
IF
GND
TUNER PACK P.C.B
To TUNER P.C.B

TIMER/PROGRAMME PRESET (For UK model)

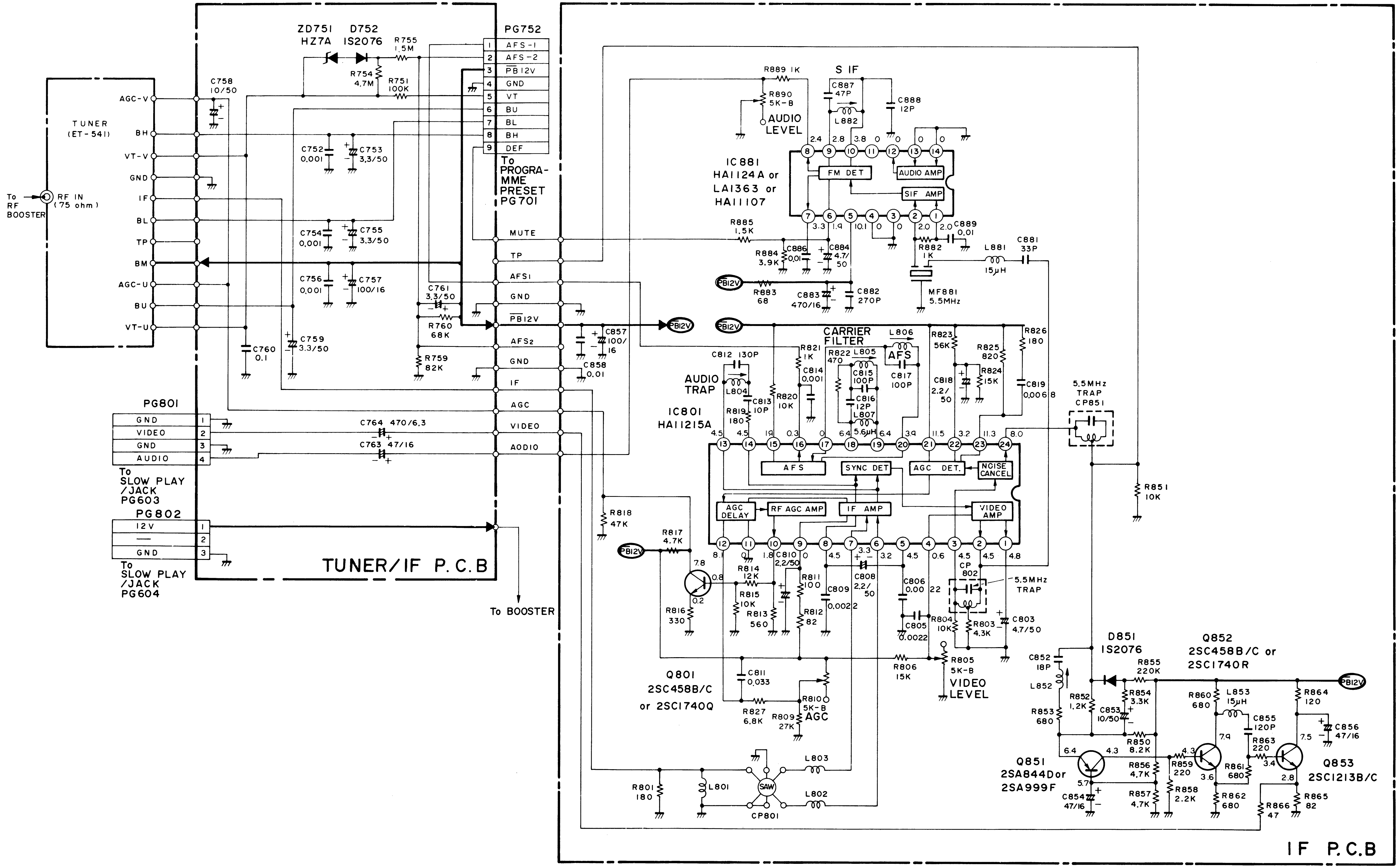

TIMER P.C.B
PROGRAMME PRESET P.C.B
PG105
CHANNEL-UP
RMT CH-UP
RMT CH-DOWN
GND
10V
DIMMER
To PROGRAMME PRESET PG705
PG102
RMT CH-DOWN
RMT CH-UP
RECORD
STILL/PAUSE
To FUNCTION CONTROL CN2003
PG103
TIMER ON
REWIND
OPERATE
TIMER STAND-BY
MEMORY STOP
GND
To FUNCTION CONTROL CN2002
PG101
CT REVERSE
REEL PULSE
To SYSTEM CONTROL PG914
PG106
17V
10V
GND
10V
To BACK-UP PG1796
PG104
-24V
GND
40V
17V
CLOCK
To RECTIFIER PG152
R101 22K
D143 DAN201
Q104 2SC2021
Q103 2SC2021
R130 220K
R136 4.7K
R137 47K
R138 220K
R121 1K
R107 220K
IC101 HD38800A57
D2 (ACCESS)
D1 (MEMORY)
D0 (CH UP)
R33 (h)
R32 (g)
R31 (f)
R30 (e)
R23 (d)
R22 (c)
R21 (b)
R20 (a)
IN 1 (CTL)
IN TO (REEL)
R13 (TIM STB)
R12 (POWER)
R11 (MATRIX 1)
R10 (MATRIX 0)
R03 (CH SW)
R02 (16CH)
R01 (REC)
R00 (REV)
D3 (TIM ON)
D4 (CLOCK)
D5
D6
D7 (1G)
D8 (2G)
D9 (3G)
D10 (4G)
D11 (5G)
D12 (6G)
D13 (7G)
D14 (8G)
D15 (9G)
Vdisp
RESET
VBB
VDD
OSC
NC
TEST
VSS
R114 33K
C101 82P
R129 10K
R128 10K
R135 4.7K
D108 1S2473
R123 100K
C125 1/50
R139 220K
R143 220K
R142 1M
R144 220K
R108 10K
R145 220K
R110 10K
R146 220K
R147 220K
R119 10K
R148 220K
R134 10K
R149 33K
C123 10/16
D109 1S2473
D117 1S2473
D119 DAN201
R113 10K
S101 MEMORY SWITCH
ON
OFF
D106 1S2473
S102 COUNTER SWITCH
D113 1S2473
D107 1S2473
S104 COUNTER PRESET SWITCH
S112 24/12 SELECTOR
12
24
AM
PM
R112 82 (1W)
C103 100/50
S109
S108
S107
S106
S105
S113
D129
D128
D127
D126
D125
D124
D124~D129 1S2473 x 6
ZD103 HZ-15
R125 2.2K
R126 68
R124 100K
C108 220/50
S105 SET
S106 ENTER
S107 CLEAR
S108 CLOCK
S104 PROGRAMME
S113 CLOCK F.F
Q736 2SC2021
Q735 2SC2021
R728 1K
R729 22K
C733 0.033
C729 0.01
R730 10K
R725 1K
R726 22K
C732 0.033
C730 0.01
R727 10K
C719 1/50
R723 1.5K
R724 1.5K
R722 1.5K
R720 68K
R716 10K
C728 0.0022
C727 0.0022
C726 0.022
DEF
VCC
CHD
CHU
OSC
K.IN
SKIP
IC721 μPD1363
GND
1CH
2CH
3CH
4CH
5CH
6CH
D711C
D711D
D711E
D711F
D711G
D711H
S121C
S121D
S121E
S121F
S121G
S121H
S121I
D101C
D101D
D101E
D101F
D101G
D101H
D131C
D131D
D131E
D131F
D131G
D131H

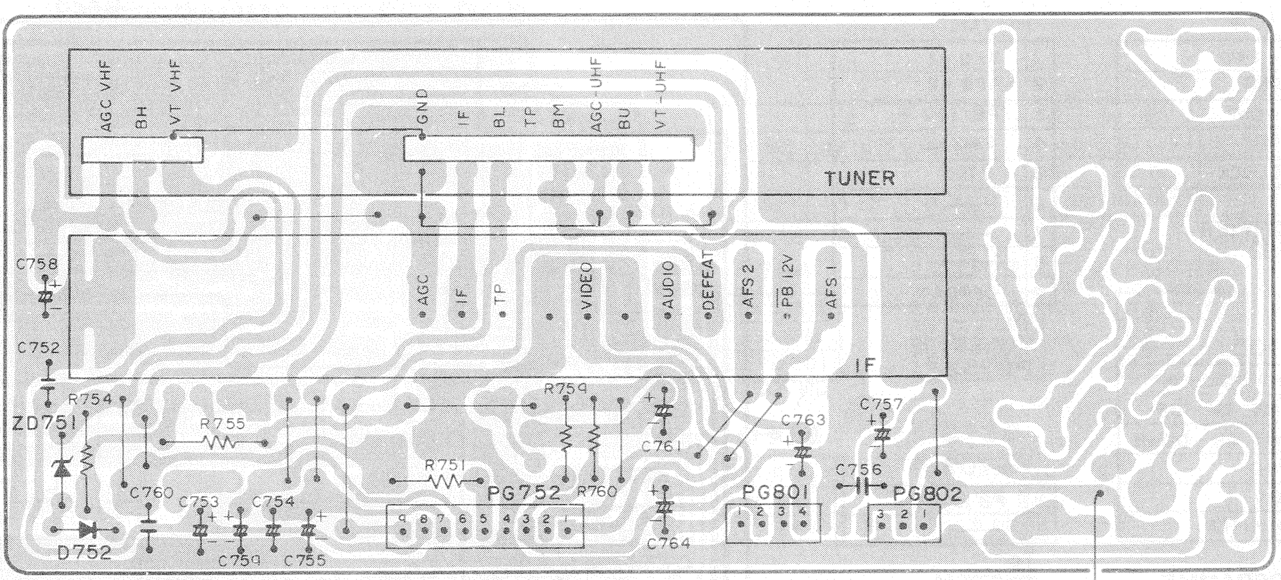
X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( )


PROGRAMME PRESET P.C.B
Q736 2SC2021
Q735 2SC2021
D731 DAN201
Q103 2SC2021
S101 MEMORY SWITCH
S102 COUNTER SWITCH
S104 COUNTER PRESET SWITCH
S112 24/12 SELECTOR
D106 1S2473
D107 1S2473
D113 1S2473
D117 1S2473
D119 DAN201
Q734 2SC2021
Q733 2SC2021
D727 1S2473
Q722 2SC2021
Q724 2SA844
D733 1S2473
Q723 1S2021
D723 1S2076A
S703 DIMMER SWITCH
BRIGHT
DIMMER
IC721 μPD1363
DEF
VCC
CHD
CHU
OSC
KIN
SKIP
GND
PG705
1 CHANNEL-UP
2 RMT CH-UP
3 RMT CH-DOWN
4 GND
5 10V
6 DIMMER
To TIMER PG105
PG703
1 PB12V
2 ——
To SISTEM CONTROL CN901
PG701
9 DEFEAT
8 ——
7 ——
6 ——
5 VT
4 GND
3 PB12V
2 AFS-2
1 AFS-1
To TUNER/IF PG752
S702 AFS SWITCH
OFF ON
Q704 2SC1213
ZD701 μPC574J
Q705 2SA673
D711C D711D D711E D711F D711G D711H D711I D711J
S121C S121D S121E S121F S121G S121H S121I S121J
D101C D101D D101E D101F D101G D101H D101I D101J
D131C D131D D131E D131F D131G D131H D131I D131J
AM
PM
S109 S108 S107 S106 S105 S113
D129 D128 D127 D126 D125 D124
D124~D129 1S2473 x 6
ZD103 HZ-15
S105 SET
S106 ENTER
S107 CLEAR
S108 CLOCK
S109 PROGRAMME
S113 CLOCK F.F
Q105 2SC2021
Q101 2SC2021
D115 1S2473
ZD105 HZ-7C
Q102 2SC2021

X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

TUNER/IF (Except for UK model)


TUNER (ET-541)
AGC-V
BH
VT-V
GND
IF
BL
TP
BM
AGC-U
BU
VT-U
To RF BOOSTER
RF IN (75 ohm)
ZD751 HZ7A
D752 1S2076
R755 1.5M
R754 4.7M
R751 100K
C758 10/50
C752 0.001
C753 3.3/50
C754 0.001
C755 3.3/50
C756 0.001
C757 100/16
C761 3.3/50
R760 68K
R759 82K
C759 3.3/50
C760 0.1
PG752
AFS-1
AFS-2
PB12V
GND
VT
BU
BL
BH
DEF
To PROGRAMME PRESET PG701
MUTE
TP
AFS1
GND
PB12V
AFS2
GND
IF
AGC
VIDEO
AODIO
PG801
GND
VIDEO
GND
AUDIO
To SLOW PLAY /JACK PG603
C764 470/6.3
C763 47/16
PG802
12V
—
GND
To SLOW PLAY /JACK PG604
TUNER/IF P.C.B
To BOOSTER
C857 100/16
C858 0.01
R889 1K
R890 5K-B
AUDIO LEVEL
S IF
C887 47P
L882
C888 12P
IC881 HA1124A or LA1363 or HA11107
FM DET
AUDIO AMP
SIF AMP
R885 1.5K
R884 3.9K
C886 0.01
C884 4.7/50
R882 1K
C889 0.01
L881 15μH
C881 33P
MF881 5.5MHz
R883 68
C883 470/16
C882 270P
PB12V
CARRIER FILTER
L806
AFS
C817 100P
R822 470
L805
C815 100P
C816 12P
L807 5.6μH
C812 130P
AUDIO TRAP
L804
C813 10P
R819 180
R820 10K
R821 1K
C814 0.001
R823 56K
C818 2.2/50
R825 820
R824 15K
R826 180
C819 0.006
5.5MHz TRAP CP851
IC801 HA11215A
AFS
SYNC DET
AGC DET.
NOISE CANCEL
AGC DELAY
RF AGC AMP
IF AMP
VIDEO AMP
R851 10K
R818 47K
R817 4.7K
Q801 2SC458B/C or 2SC1740Q
R816 330
R814 12K
R815 10K
R813 560
C810 2.2/50
R811 100
R812 82
C809 0.002
C808 2.2/50
C806 0.00
C805 0.0022
CP 802
5.5MHz TRAP
R804 10K
R803 4.3K
C803 4.7/50
R806 15K
R805 5K-B
VIDEO LEVEL
C811 0.033
R810 5K-B AGC
R827 6.8K
R809 27K
R801 180
L801
SAW
CP801
L803
L802
C852 18P
L852
R853 680
R852 1.2K
D851 1S2076
R855 220K
R854 3.3K
C853 10/50
R850 8.2K
Q851 2SA844D or 2SA999F
C854 47/16
R856 4.7K
R857 4.7K
R859 220
R858 2.2K
Q852 2SC458B/C or 2SC1740R
R860 680
L853 15μH
C855 120P
R863 220
R861 680
R862 680
R864 120
C856 47/16
Q853 2SC1213B/C
R866 47
R865 82
IF P.C.B


AGC VHF
BH
VT VHF
GND
IF
BL
TP
BM
AGC-UHF
BU
VT-UHF
TUNER
AGC
IF
TP
VIDEO
AUDIO
DEFEAT
AFS 2
PB 12V
AFS 1
IF
C758
C752
R754
ZD751
R755
C760
C753
C754
C759
C755
D752
R751
PG752
R759
R760
C761
C763
C764
PG801
C757
C756
PG802
To BOOSTER

TUNER / IF P.C.B

PG752

1	AFS 1
2	AFS 2
3	$\overline{\text{PB}}$ 12V
4	GND
5	VT
6	BU
7	BL
8	BH
9	DEFEAT

To
PROGRAMME
PRESET
PG701

PG801

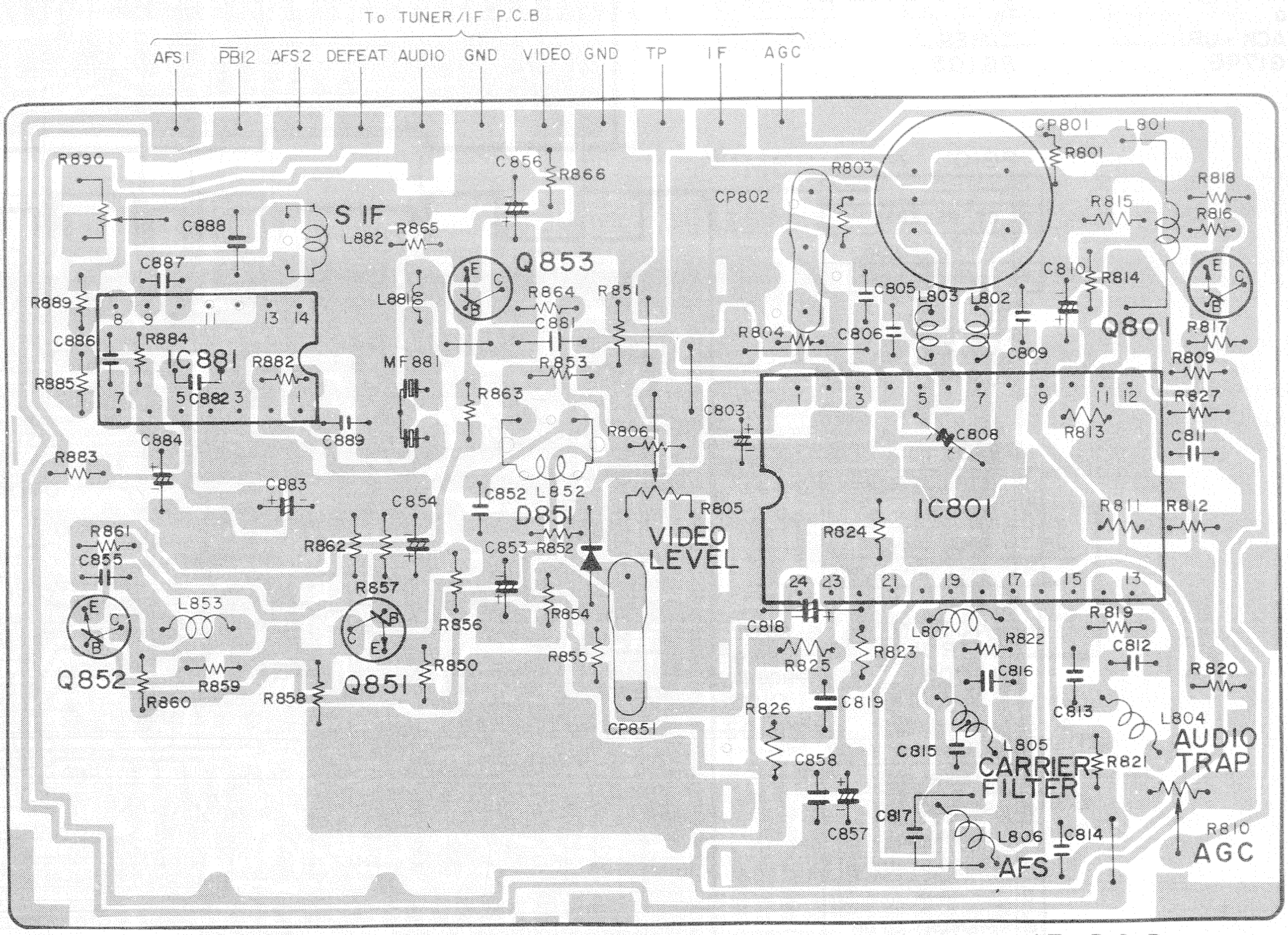
1	GND
2	VIDEO
3	GND
4	AUDIO

To
SLOW
PLAY /
JACK
PG603

PG802

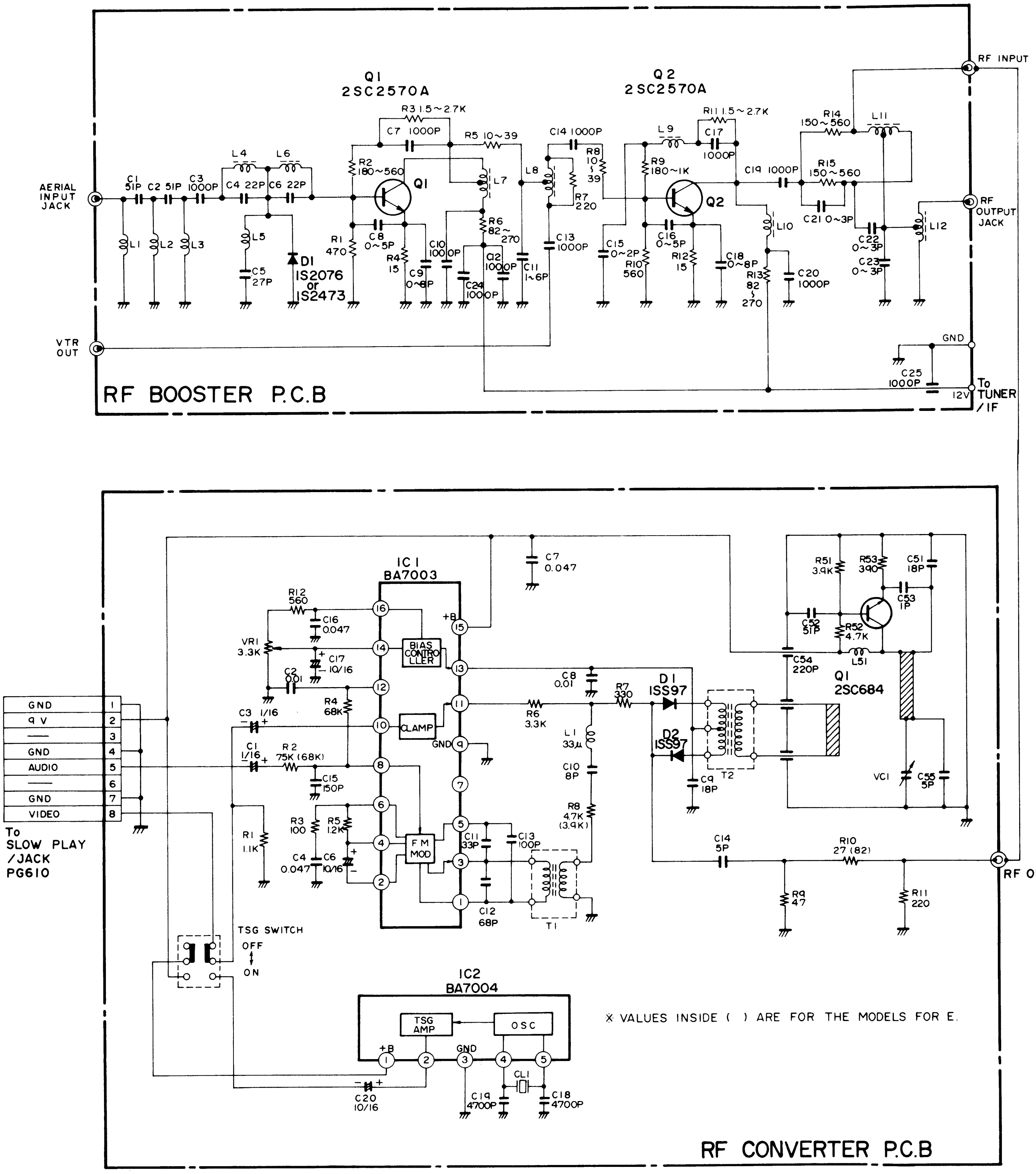
1	BOOSTER +B
2	——
3	GND

To
SLOW PLAY/
JACK
PG604


To TUNER/IF P.C.B
AFS1
PB12
AFS2
DEFEAT
AUDIO
GND
VIDEO
GND
TP
IF
AGC
R890
C888
S IF
L882
R865
C856
R866
CP802
R803
CP801
R801
L801
R818
R815
R816
C887
R889
IC881
C886
R884
R885
R882
C882
C889
C884
R883
L881
Q853
R864
R851
C861
R853
MF881
R863
C805
L803
L802
C806
R804
C809
C810
R814
Q801
R817
R809
R827
C811
R813
C808
IC801
C803
R806
R805
VIDEO LEVEL
C852
L852
D851
R852
C853
C854
R862
C883
R861
C855
L853
Q852
R860
R859
R858
R857
Q851
R856
R850
R854
R855
CP851
R824
R811
R812
C818
R825
R823
L807
R822
C816
R819
C812
R820
R826
C819
C813
L804
AUDIO TRAP
C815
L805
CARRIER FILTER
R821
C858
C857
C817
L806
C814
AFS
R810
AGC

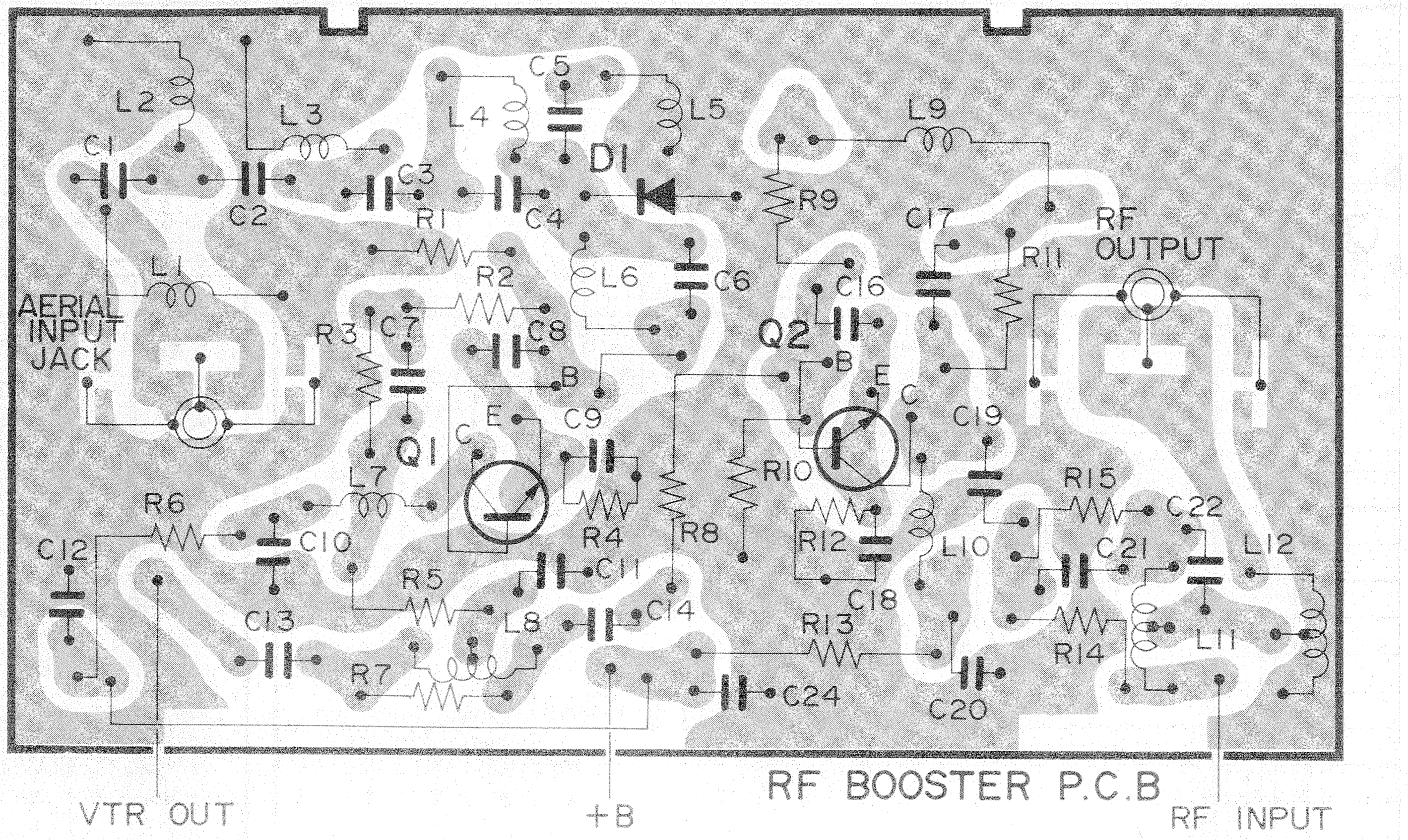
IF P.C.B

RF BOOSTER/RF CONVERTER



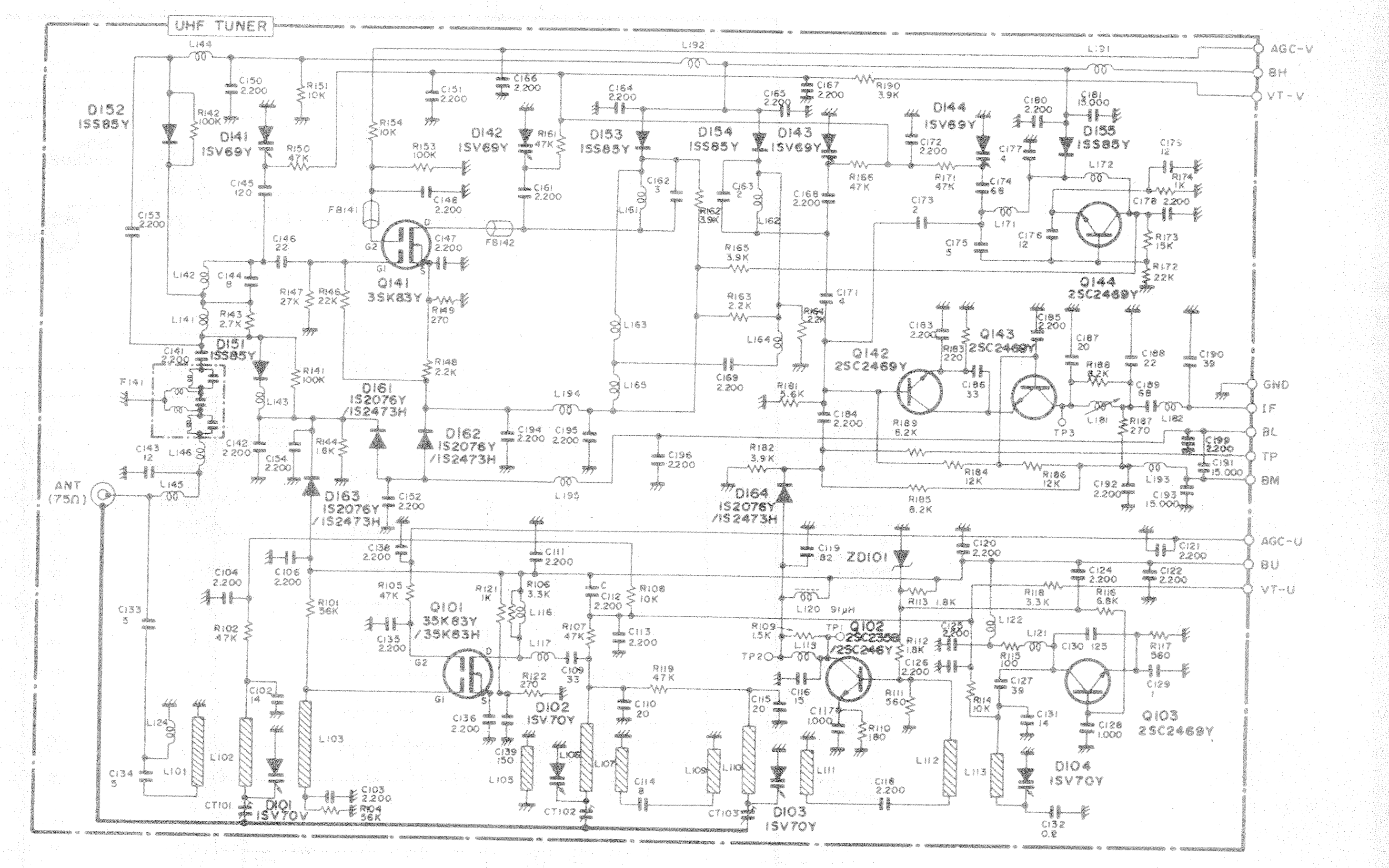
Q1
2SC2570A
Q2
2SC2570A
R3 1.5~2.7K
C7 1000P
R5 10~39
C14 1000P
R8 10~39
R7 220
L8
L7
R6 82~270
C11 1~6P
C12 1000P
C24 1000P
C10 1000P
C9 0~8P
R4 15
C8 0~5P
R1 470
R2 180~560
L4
L6
C1 51P
C2 51P
C3 1000P
C4 22P
C6 22P
L1
L2
L3
L5
C5 27P
D1 1S2076 or 1S2473
AERIAL INPUT JACK
VTR OUT
C13 1000P
R11 1.5~2.7K
L9
C17 1000P
R9 180~1K
C15 0~2P
R10 560
C16 0~5P
R12 15
C18 0~8P
R13 82~270
L10
C20 1000P
C19 1000P
R14 150~560
R15 150~560
L11
C21 0~3P
C22 0~3P
C23 0~3P
L12
RF INPUT
RF OUTPUT JACK
GND
C25 1000P
12V
To TUNER /IF
RF BOOSTER P.C.B
C7 0.047
IC1 BA7003
R12 560
C16 0.047
VR1 3.3K
C17 10/16
C2 0.01
R4 68K
C3 1/16
C1 1/16
R2 75K (68K)
C15 150P
R3 100
R5 12K
C4 0.047
C6 10/16
R1 1.1K
BIAS CONTROLLER
CLAMP
FM MOD
+B
GND
C11 33P
C13 100P
C12 68P
T1
C8 0.01
R7 330
R6 3.3K
L1 33μ
C10 8P
R8 4.7K (3.9K)
D1 ISS97
D2 ISS97
C9 18P
T2
C54 220P
Q1 2SC684
R51 3.9K
R53 390
C51 18P
C53 1P
C52 51P
R52 4.7K
L51
VC1
C55 5P
C14 5P
R10 27 (82)
R9 47
R11 220
RF OUT
GND
9 V
GND
AUDIO
GND
VIDEO
1
2
3
4
5
6
7
8
To SLOW PLAY /JACK PG610
TSG SWITCH
OFF
ON
IC2 BA7004
TSG AMP
OSC
+B
GND
CL1
C19 4700P
C18 4700P
C20 10/16
RF CONVERTER P.C.B

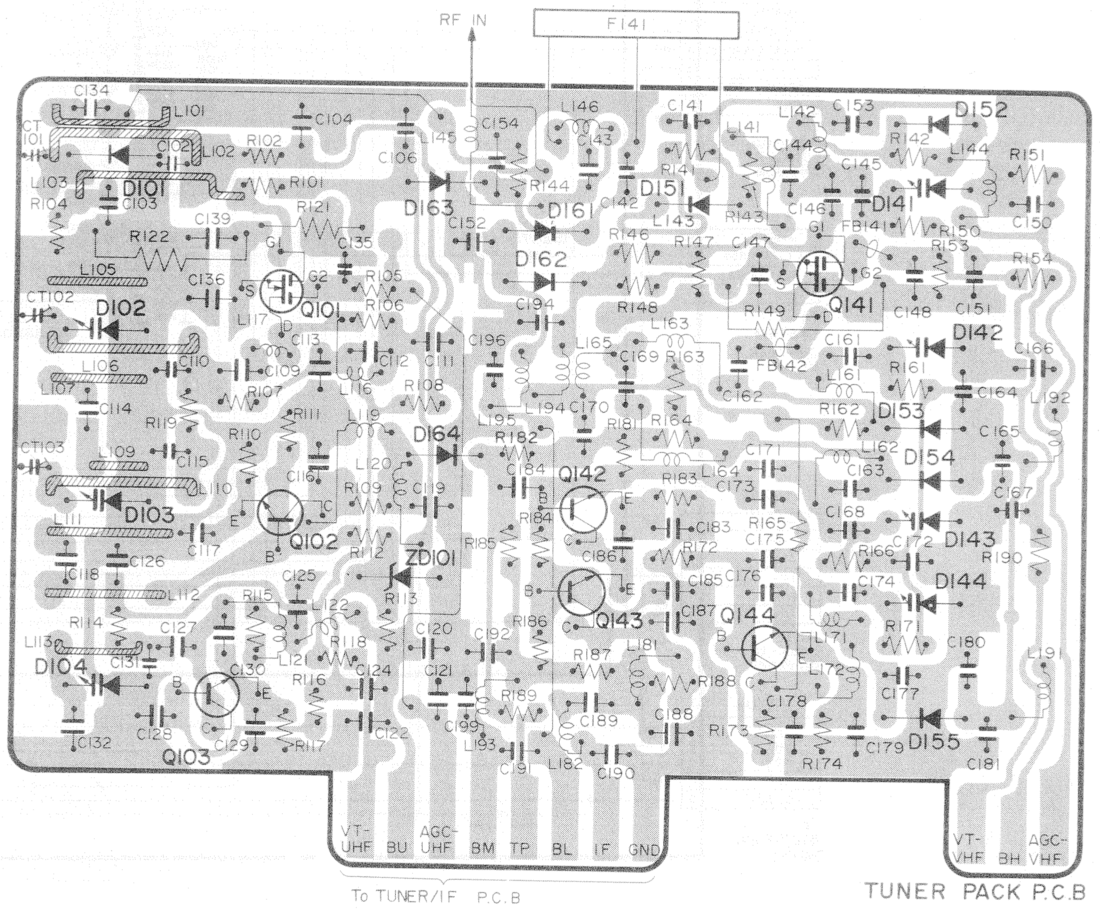
※ VALUES INSIDE ( ) ARE FOR THE MODELS FOR E.


L2
L3
L4
C5
L5
L9
C1
C2
C3
C4
D1
R9
R1
R2
L6
C6
C17
RF OUTPUT
R11
L1
C16
AERIAL INPUT JACK
R3
C7
C8
Q2
B
E
C
C9
C19
Q1
R10
R15
L7
R6
R4
R8
R12
C22
C12
C10
C11
C18
L10
C21
L12
R5
C13
L8
C14
R13
R14
L11
R7
C24
C20
VTR OUT
+B
RF INPUT

RF BOOSTER P.C.B

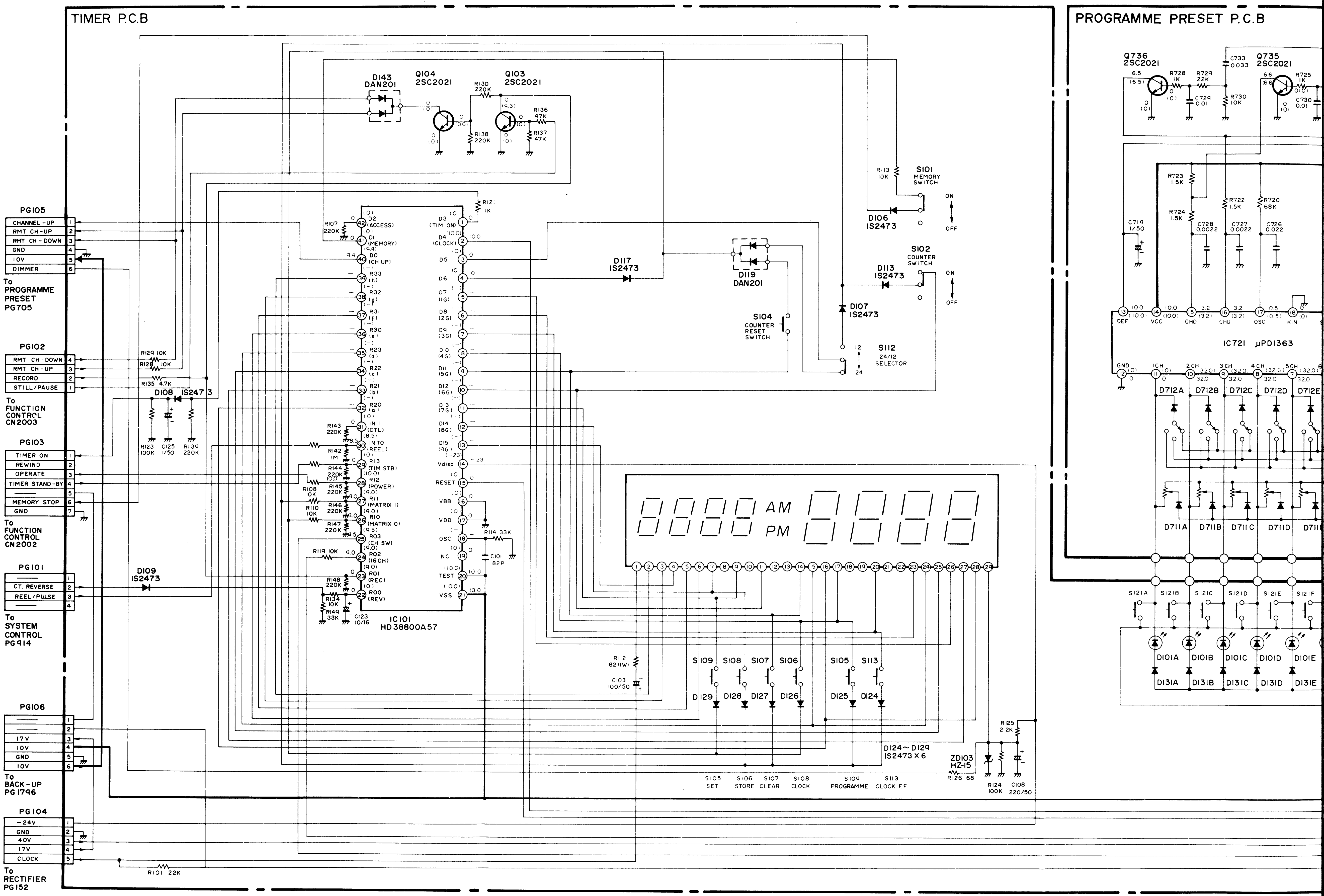
TUNER PACK ET-541


UHF TUNER
AGC-V
BH
VT-V
D152 1SS85Y
D141 1SV69Y
D142 1SV69Y
D153 1SS85Y
D154 1SS85Y
D143 1SV69Y
D144 1SV69Y
D155 1SS85Y
Q141 3SK83Y
Q142 2SC2469Y
Q143 2SC2469Y
Q144 2SC2469Y
D151 1SS85Y
D161 1S2076Y /1S2473H
D162 1S2076Y /1S2473H
D163 1S2076Y /1S2473H
D164 1S2076Y /1S2473H
ANT (75Ω)
F141
FB141
FB142
GND
IF
BL
TP
BM
AGC-U
BU
VT-U
ZD101
Q101 3SK83Y /3SK83H
Q102 2SC2358 /2SC2469Y
Q103 2SC2469Y
D101 1SV70Y
D102 1SV70Y
D103 1SV70Y
D104 1SV70Y
TP1
TP2
TP3
CT101
CT102
CT103
L192
L191

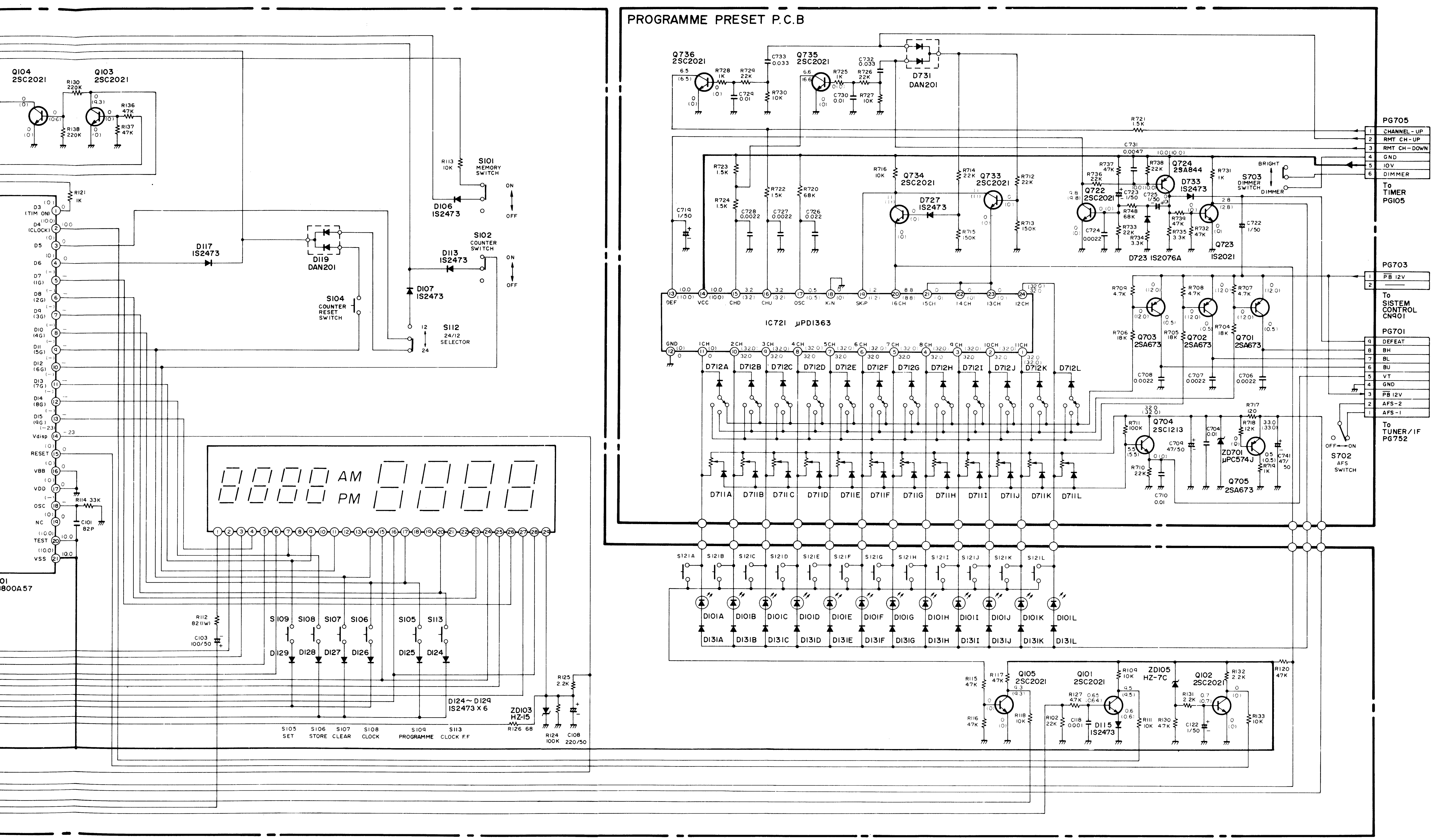

RF IN
F141
C134
L101
CT101
C104
C154
L146
C141
L142
C153
D152
L103
R104
D101
C103
R102
R101
C106
L145
D163
R144
D151
R142
L144
R151
C150
C139
R122
R121
C135
C152
D161
L143
R143
C146
D141
R150
R153
R154
L105
C136
D162
R146
R147
C147
FB141
CT102
D102
Q101
R105
R106
R148
R149
Q141
C148
C151
D142
C166
L117
C113
C109
C196
L165
C169
R163
FB142
C161
L161
R161
C164
L106
C110
L116
C112
C111
R108
L194
C170
R181
R164
C162
R162
D153
C165
L107
C114
R119
R107
R111
L195
R182
L192
CT103
L109
C115
R110
L119
D164
C184
Q142
R183
C171
C163
L162
D154
C167
L110
C116
L120
C119
R184
C183
R165
C175
C168
D143
R190
L111
D103
Q102
R109
R185
C186
R172
R166
C172
C118
C126
C117
R112
ZD101
C185
C176
C174
D144
L112
R115
C125
R113
Q143
C187
Q144
R171
C180
R114
C127
L122
R118
C120
C192
R186
L181
L171
L191
L113
C131
C130
L121
C124
C121
R187
R188
L172
C177
D104
Q103
R116
C199
R189
C178
C189
C188
R173
C179
D155
C181
C132
C128
C129
R117
C122
L193
C191
L182
C190
R174
VT-UHF
BU
AGC-UHF
BM
TP
BL
IF
GND
VT-VHF
BH
AGC-VHF
To TUNER/IF P.C.B

TUNER PACK P.C.B

TIMER/PROGRAMME PRESET (Except for UK model)


TIMER P.C.B
PROGRAMME PRESET P.C.B
D143 DAN201
Q104 2SC2021
Q103 2SC2021
R130 220K
R136 47K
R137 47K
R138 220K
PG105
CHANNEL-UP
RMT CH-UP
RMT CH-DOWN
GND
10V
DIMMER
To PROGRAMME PRESET PG705
PG102
RMT CH-DOWN
RMT CH-UP
RECORD
STILL/PAUSE
To FUNCTION CONTROL CN2003
PG103
TIMER ON
REWIND
OPERATE
TIMER STAND-BY
MEMORY STOP
GND
To FUNCTION CONTROL CN2002
PG101
CT. REVERSE
REEL/PULSE
To SYSTEM CONTROL PG914
PG106
17V
10V
GND
10V
To BACK-UP PG1796
PG104
-24V
GND
40V
17V
CLOCK
To RECTIFIER PG152
R101 22K
R129 10K
R128 10K
R135 4.7K
D108 1S2473
R123 100K
C125 1/50
R139 220K
D109 1S2473
R107 220K
R121 1K
D2 (ACCESS)
D1 (MEMORY)
D0 (CH UP)
R33 (h)
R32 (g)
R31 (f)
R30 (e)
R23 (d)
R22 (c)
R21 (b)
R20 (a)
IN 1 (CTL)
IN 0 (REEL)
R13 (TIM STB)
R12 (POWER)
R11 (MATRIX 1)
R10 (MATRIX 0)
R03 (CH SW)
R02 (16CH)
R01 (REC)
R00 (REV)
D3 (TIM ON)
D4 (CLOCK)
D5
D6
D7 (1G)
D8 (2G)
D9 (3G)
D10 (4G)
D11 (5G)
D12 (6G)
D13 (7G)
D14 (8G)
D15 (9G)
Vdisp
RESET
VBB
VDD
OSC
NC
TEST
VSS
R143 220K
R142 1M
R144 220K
R108 10K
R145 220K
R110 10K
R146 220K
R147 220K
R119 10K
R148 220K
R134 10K
R149 33K
C123 10/16
R114 33K
C101 82P
IC101 HD38800A57
R113 10K
S101 MEMORY SWITCH
ON
OFF
D106 1S2473
S102 COUNTER SWITCH
D117 1S2473
D119 DAN201
D113 1S2473
D107 1S2473
S104 COUNTER RESET SWITCH
S112 24/12 SELECTOR
12
24
AM
PM
R112 82(1W)
C103 100/50
S109
S108
S107
S106
S105
S113
D129
D128
D127
D126
D125
D124
D124~D129 1S2473 x 6
R125 2.2K
ZD103 HZ-15
R126 68
R124 100K
C108 220/50
S105 SET
S106 STORE
S107 CLEAR
S108 CLOCK
S109 PROGRAMME
S113 CLOCK F.F
Q736 2SC2021
Q735 2SC2021
R728 1K
R729 22K
C733 0.033
R725 1K
C729 0.01
R730 10K
C730 0.01
R723 1.5K
R724 1.5K
R722 1.5K
R720 68K
C719 1/50
C728 0.0022
C727 0.0022
C726 0.022
DEF
VCC
CHD
CHU
OSC
KIN
GND
IC721 μPD1363
1CH
2CH
3CH
4CH
5CH
D712A
D712B
D712C
D712D
D712E
D711A
D711B
D711C
D711D
S121A
S121B
S121C
S121D
S121E
S121F
D101A
D101B
D101C
D101D
D101E
D131A
D131B
D131C
D131D
D131E

X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( )


PROGRAMME PRESET P.C.B
Q104
2SC2021
Q103
2SC2021
R130
220K
R138
220K
R136
47K
R137
47K
R121
1K
R113
10K
S101
MEMORY SWITCH
ON
OFF
D106
1S2473
S102
COUNTER SWITCH
D113
1S2473
D117
1S2473
D119
DAN201
S104
COUNTER RESET SWITCH
D107
1S2473
S112
24/12 SELECTOR
D3 (TIM ON)
D4 (CLOCK)
D5
D6
D7 (1G)
D8 (2G)
D9 (3G)
D10 (4G)
D11 (5G)
D12 (6G)
D13 (7G)
D14 (8G)
D15 (9G)
Vdisp
RESET
VBB
VDD
OSC
NC
TEST
VSS
R114 33K
C101 82P
800A57
AM
PM
R112 82 (1W)
C103 100/50
S109
S108
S107
S106
S105
S113
D129
D128
D127
D126
D125
D124
D124~D129
1S2473 x 6
S105 SET
S106 STORE
S107 CLEAR
S108 CLOCK
S109 PROGRAMME
S113 CLOCK F.F
ZD103
HZ-15
R126 68
R125 2.2K
R124 100K
C108 220/50
Q736
2SC2021
R728 1K
R729 22K
C724 0.01
C733 0.033
R730 10K
Q735
2SC2021
R725 1K
R726 22K
C730 0.01
R727 10K
C732 0.033
D731
DAN201
R721 1.5K
C731 0.0047
R723 1.5K
R724 1.5K
R722 1.5K
R720 68K
C719 1/50
C728 0.0022
C727 0.0022
C726 0.022
R716 10K
Q734
2SC2021
D727
1S2473
R714 22K
Q733
2SC2021
R712 22K
R715 150K
R713 150K
R737 47K
R736 22K
R738 22K
Q724
2SA844
R731 1K
S703
DIMMER SWITCH
BRIGHT
DIMMER
Q722
2SC2021
C723 1/50
C725 1/50
R748 68K
D733
1S2473
R739 47K
R733 22K
R734 3.3K
R735 3.3K
R732 47K
C724 0.0022
C722 1/50
Q723
1S2021
D723 1S2076A
DEF
VCC
CHD
CHU
OSC
KiN
SKiP
16CH
15CH
14CH
13CH
12CH
IC721 μPD1363
GND
1CH
2CH
3CH
4CH
5CH
6CH
7CH
8CH
9CH
10CH
11CH
D712A
D712B
D712C
D712D
D712E
D712F
D712G
D712H
D712I
D712J
D712K
D712L
D711A
D711B
D711C
D711D
D711E
D711F
D711G
D711H
D711I
D711J
D711K
D711L
R709 4.7K
R708 4.7K
R707 4.7K
R706 18K
Q703
2SA673
R705 18K
Q702
2SA673
R704 18K
Q701
2SA673
C708 0.0022
C707 0.0022
C706 0.0022
R711 100K
Q704
2SC1213
C709 47/50
C704 0.01
R717 120
R718 12K
ZD701
μPC574J
R719 1K
C741 47/50
R710 22K
C710 0.01
Q705
2SA673
PG705
1 CHANNEL-UP
2 RMT CH-UP
3 RMT CH-DOWN
4 GND
5 10V
6 DIMMER
To TIMER PG105
PG703
1 PB 12V
2
To SISTEM CONTROL CN901
PG701
9 DEFEAT
8 BH
7 BL
6 BU
5 VT
4 GND
3 PB 12V
2 AFS-2
1 AFS-1
To TUNER/IF PG752
S702
AFS SWITCH
OFF
ON
S121A
S121B
S121C
S121D
S121E
S121F
S121G
S121H
S121I
S121J
S121K
S121L
D101A
D101B
D101C
D101D
D101E
D101F
D101G
D101H
D101I
D101J
D101K
D101L
D131A
D131B
D131C
D131D
D131E
D131F
D131G
D131H
D131I
D131J
D131K
D131L
R115 47K
R117 47K
Q105
2SC2021
R116 47K
R118 10K
Q101
2SC2021
R109 10K
R127 47K
R102 22K
C118 0.001
D115
1S2473
R111 10K
ZD105
HZ-7C
R130 47K
Q102
2SC2021
R131 2.2K
C122 1/50
R132 2.2K
R133 10K
R120 47K

X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

PG104

1	−24V
2	GND
3	40V
4	17V
5	CLOCK

To
RECTIFIER
PG152

PG105

1	CHANNEL-UP
2	RMT CH-UP
3	RMT CH-DOWN
4	GND
5	10V
6	DIMMER

To
PROGRAMME
PRESET
PG705

PG106

1	——
2	——
3	17V
4	10V
5	GND
6	10V

To
BACK-UP
PG1796

PG701

1	AFS-1
2	AFS-2
3	$\overline{\text{PB}}$ 12V
4	GND
5	VT
6	BU
7	BL
8	BH
9	DEFEAT

To
TUNER/IF
PG752

PG703

1	$\overline{\text{PB}}$ 12V
2	——

To
SYSTEM
CONTROL
CN901

PG705

1	CHANNEL-UP
2	RMT CH-UP
3	RMT CH-DOWN
4	GND
5	10V
6	DIMMER

To
TIMER
PG105

PG101

1	——
2	C. REVERSE
3	REEL PULSE
4	——

To
SYSTEM
CONTROL
PG914

PG102

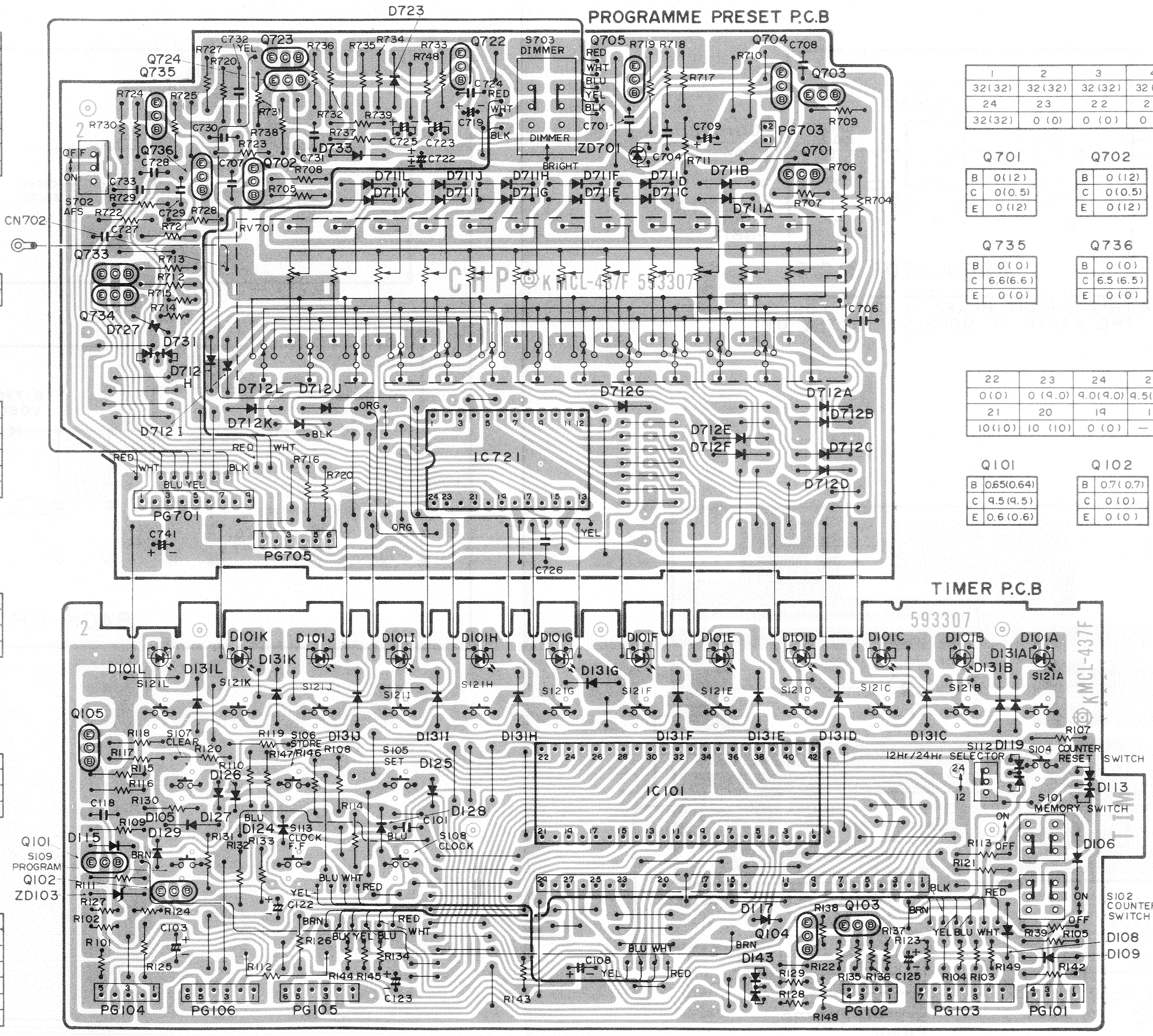
1	STILL/PAUSE
2	RECORD
3	RMT CH-UP
4	RMT CH-DOWN

To
FUNCTION
CONTROL
CN2003

PG103

1	TIMER ON
2	REWIND
3	OPERATE
4	TIMER STAND-BY
5	——
6	MEMORY STOP
7	GND

To
FUNCTION
CONTROL
CN2002


PROGRAMME PRESET P.C.B
D723
CN702
Q724
Q735
Q723
Q722
Q705
Q704
Q703
Q701
Q702
Q733
Q734
Q736
S703 DIMMER
DIMMER
BRIGHT
S702 AFS
OFF
ON
ZD701
RV701
IC721
IC706
C726
C741
PG701
PG705
PG703
D712A
D712B
D712C
D712D
D712E
D712F
D712G
D712H
D712I
D712J
D712K
D712L
D711A
D711B
D711C
D711D
D711E
D711F
D711G
D711H
D711I
D711J
D711K
D711L
D727
D731
D733
RED
WHT
BLU
YEL
BLK
ORG
CHIP
KMCL-437F 593307
TIMER P.C.B
593307
KMCL-437F
D101A
D101B
D101C
D101D
D101E
D101F
D101G
D101H
D101I
D101J
D101K
D101L
D131A
D131B
D131C
D131D
D131E
D131F
D131G
D131H
D131I
D131J
D131K
D131L
S121A
S121B
S121C
S121D
S121E
S121F
S121G
S121H
S121I
S121J
S121K
S121L
IC101
Q101
Q102
Q103
Q104
Q105
ZD103
S101 MEMORY SWITCH
S102 COUNTER SWITCH
S104 COUNTER RESET SWITCH
S105 SET
S106 STORE
S107 CLEAR
S108 CLOCK
S109 PROGRAM
S112 12Hr/24Hr SELECTOR
S113 CLOCK F.F
D105
D106
D108
D109
D113
D115
D117
D119
D124
D125
D126
D127
D128
D129
D143
C101
C103
C108
C118
C122
C123
C125
PG104
PG106
PG105
PG102
PG103
PG101
ON
OFF
24
12
BRN

IC721

1	2	3	4	5	6	7	8	9
32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)
24	23	22	21	20	19	18	17	16
32(32)	0(0)	0(0)	0(0)	8.8(8.8)	1.2(1.2)	0(0)	0.5(0.5)	3.2(3.2)

Q701

B	0(12)
C	0(0.5)
E	0(12)

Q702

B	0(12)
C	0(0.5)
E	0(12)

Q703

B	0(12)
C	0(0.5)
E	0(12)

Q704

B	5.5(5.5)
C	32(32)
E	0(0)

Q70

B	0(
C	0.5(
E	33(

Q735

B	0(0)
C	6.6(6.6)
E	0(0)

Q736

B	0(0)
C	6.5(6.5)
E	0(0)

22	23	24	25	26	27	28	29	30
0(0)	0(9.0)	9.0(9.0)	9.5(9.5)	9.0(9.0)	9.0(9.0)	10(10)	0(0)	8.5(8.5)
21	20	19	18	17	16	15	14	13
10(10)	10(10)	0(0)	—(—)	0(0)	0(0)	0(0)	-23(-23)	—(—)

Q101

B	0.65(0.64)
C	9.5(9.5)
E	0.6(0.6)

Q102

B	0.7(0.7)
C	0(0)
E	0(0)

Q103

B	0(0)
C	0(9.3)
E	0(0)

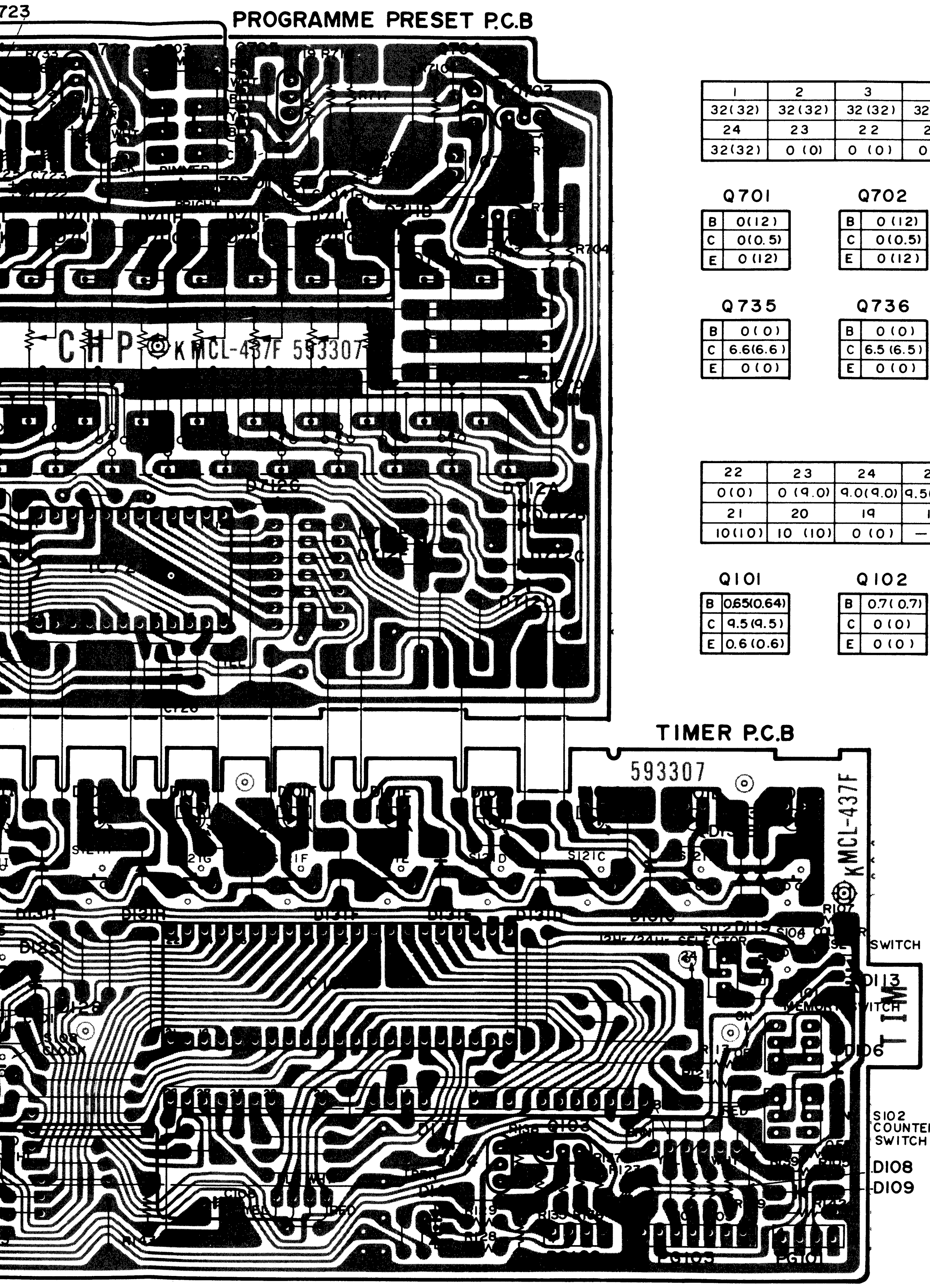
Q104

B	0(0.6)
C	0(0)
E	0(0)

Q10

B	0
C	9.3(
E	0

※ VOLTAGES ARE


PROGRAMME PRESET P.C.B
723
CHP
KMCL-437F 593307
R704
TIMER P.C.B
593307
KMCL-437F
SWITCH
D113
D106
S102
COUNTER
SWITCH
D108
D109

IC721

1	2	3	4	5	6	7	8	9	10	11	12
32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	32(32)	0(0)	0 (0)
24	23	22	21	20	19	18	17	16	15	14	13
32(32)	0 (0)	0 (0)	0 (0)	8.8(8.8)	1.2(1.2)	0(0)	0.5(0.5)	3.2(3.2)	3.2(3.2)	10(10)	10(10)

Q701

B	0(12)
C	0(0.5)
E	0(12)

Q702

B	0(12)
C	0(0.5)
E	0(12)

Q703

B	0(12)
C	0(0.5)
E	0(12)

Q704

B	5.5(5.5)
C	32(32)
E	0(0)

Q705

B	0(0)
C	0.5(0.5)
E	33(33)

Q722

B	0(0)
C	9.8(9.8)
E	0(0)

Q723

B	0(0)
C	2.8(2.8)
E	0(0)

Q724

B	10(10)
C	0(0)
E	10(10)

Q733

B	0(0)
C	1.1(1.1)
E	0(0)

Q734

B	0(0)
C	1.1(1.1)
E	0(0)

Q735

B	0(0)
C	6.6(6.6)
E	0(0)

Q736

B	0(0)
C	6.5(6.5)
E	0(0)

IC101

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0(0)	0 (9.0)	9.0(9.0)	9.5(9.5)	9.0(9.0)	9.0(9.0)	10 (10)	0(0)	8.5(8.5)	0 (0)	− (−)	− (−)	− (−)	− (−)	− (−)	− (−)	− (−)	− (−)	9.4(9.4)	0(0)	0(0)
21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
10(10)	10 (10)	0 (0)	− (−)	0 (0)	0 (0)	0 (0)	-23(-23)	− (−)	− (−)	− (—)	− (—)	− (−)	− (−)	− (−)	− (−)	− (−)	− (−)	0(0)	10(10)	0(0)

Q101

B	0.65(0.64)
C	9.5(9.5)
E	0.6(0.6)

Q102

B	0.7(0.7)
C	0(0)
E	0(0)

Q103

B	0(0)
C	0(9.3)
E	0(0)

Q104

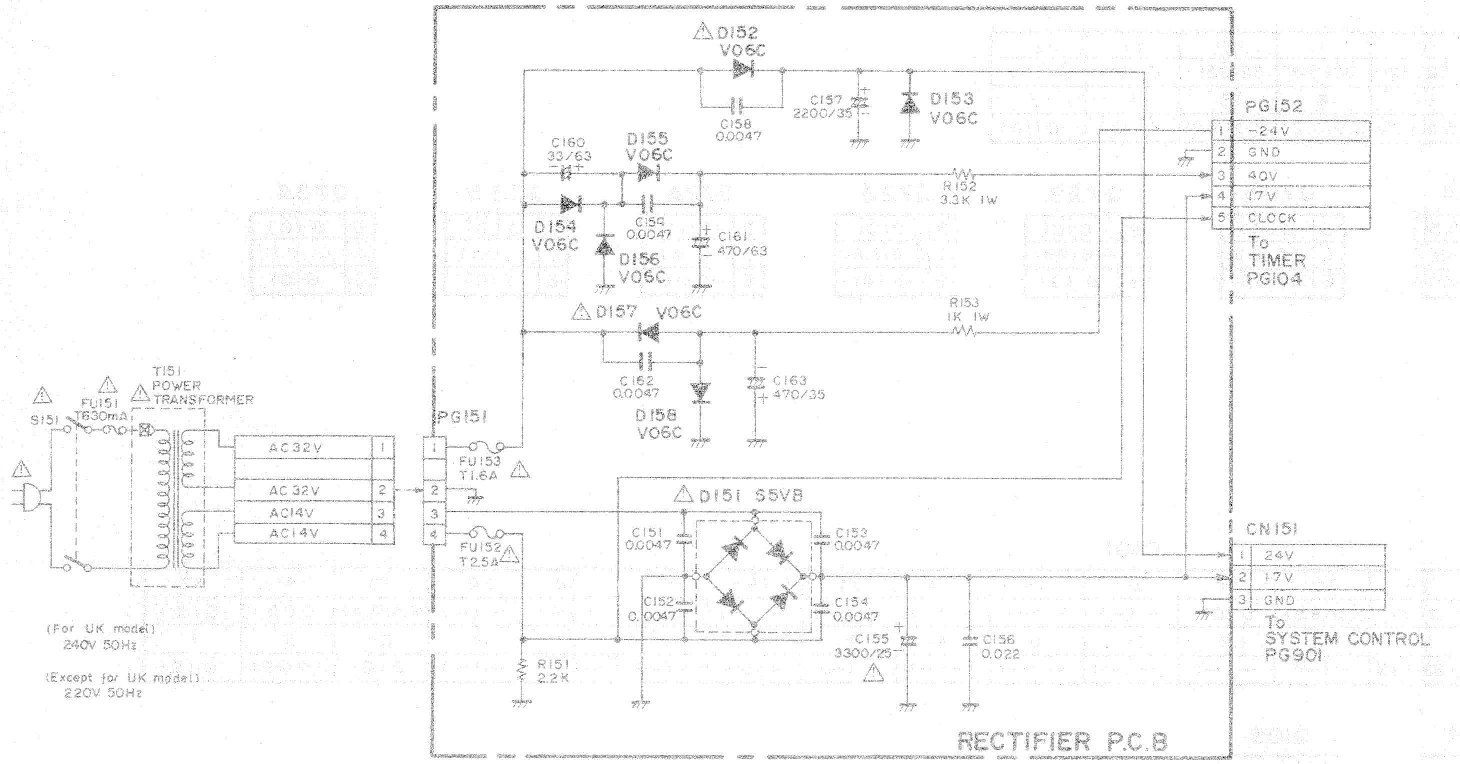
B	0 (0.6)
C	0(0)
E	0 (0)

Q105

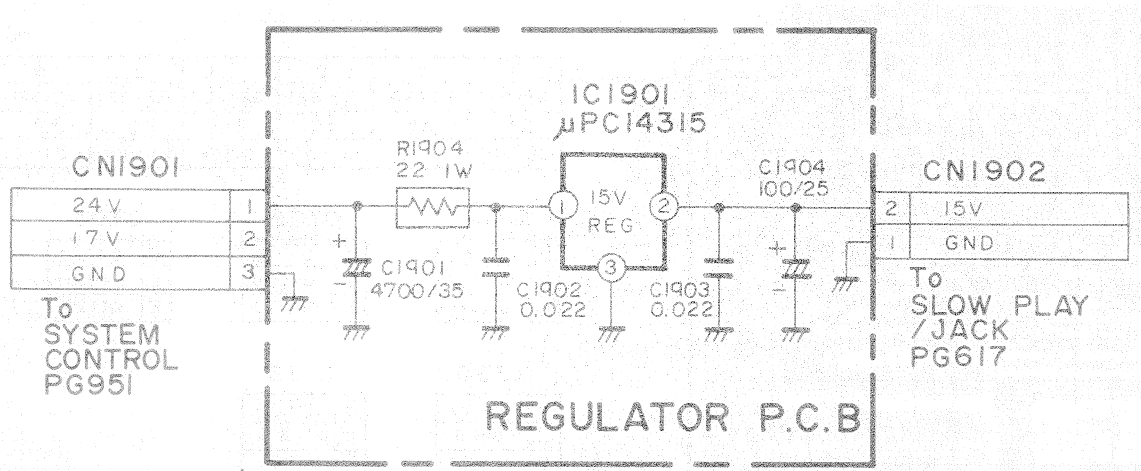
B	0 (0)
C	9.3(9.3)
E	0 (0)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

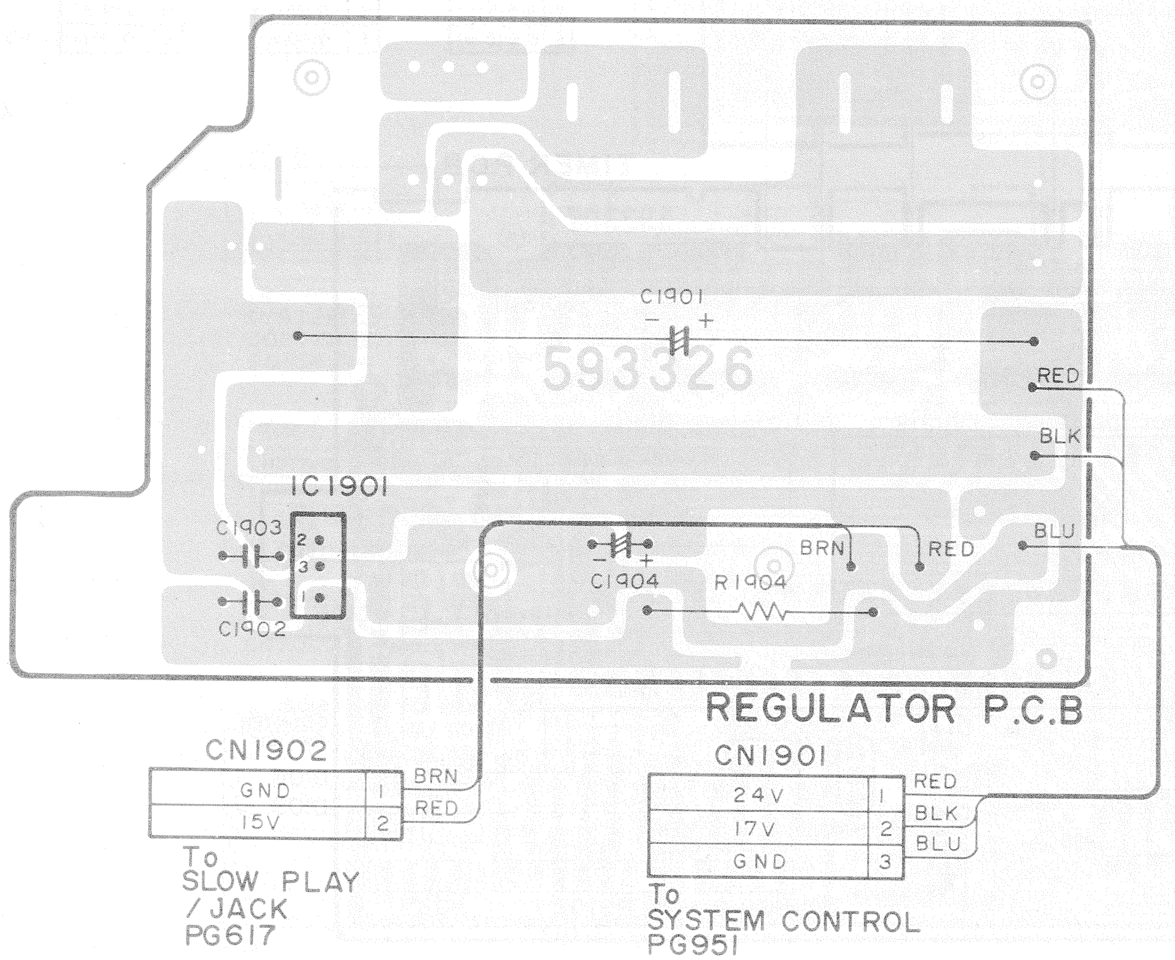
RECTIFIER

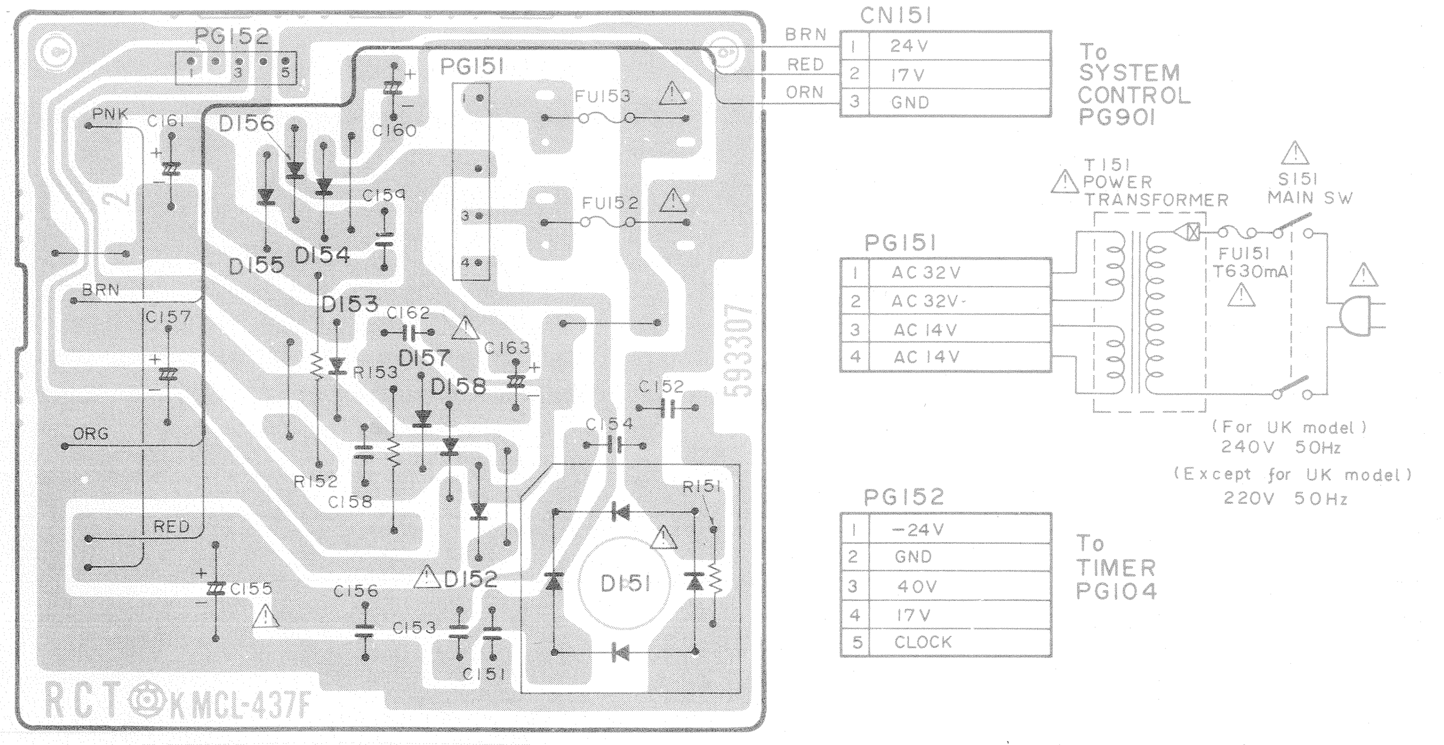

D152 V06C
C157 2200/35
D153 V06C
C158 0.0047
C160 33/63
D155 V06C
D154 V06C
C159 0.0047
C161 470/63
D156 V06C
D157 V06C
R152 3.3K 1W
R153 1K 1W
C162 0.0047
C163 470/35
D158 V06C
PG152
1 -24V
2 GND
3 40V
4 17V
5 CLOCK
To TIMER PG104
S151
FU151 T630mA
T151 POWER TRANSFORMER
AC32V 1
AC32V 2
AC14V 3
AC14V 4
PG151
FU153 T1.6A
FU152 T2.5A
D151 S5VB
C151 0.0047
C153 0.0047
C152 0.0047
C154 0.0047
C155 3300/25
C156 0.022
R151 2.2K
CN151
1 24V
2 17V
3 GND
To SYSTEM CONTROL PG901
(For UK model) 240V 50Hz
(Except for UK model) 220V 50Hz
RECTIFIER P.C.B

REGULATOR (Except for UK model)


IC1901
μPC14315
CN1901
24V 1
17V 2
GND 3
To SYSTEM CONTROL PG951
R1904 22 1W
C1901 4700/35
C1902 0.022
15V REG
C1903 0.022
C1904 100/25
CN1902
2 15V
1 GND
To SLOW PLAY /JACK PG617
REGULATOR P.C.B

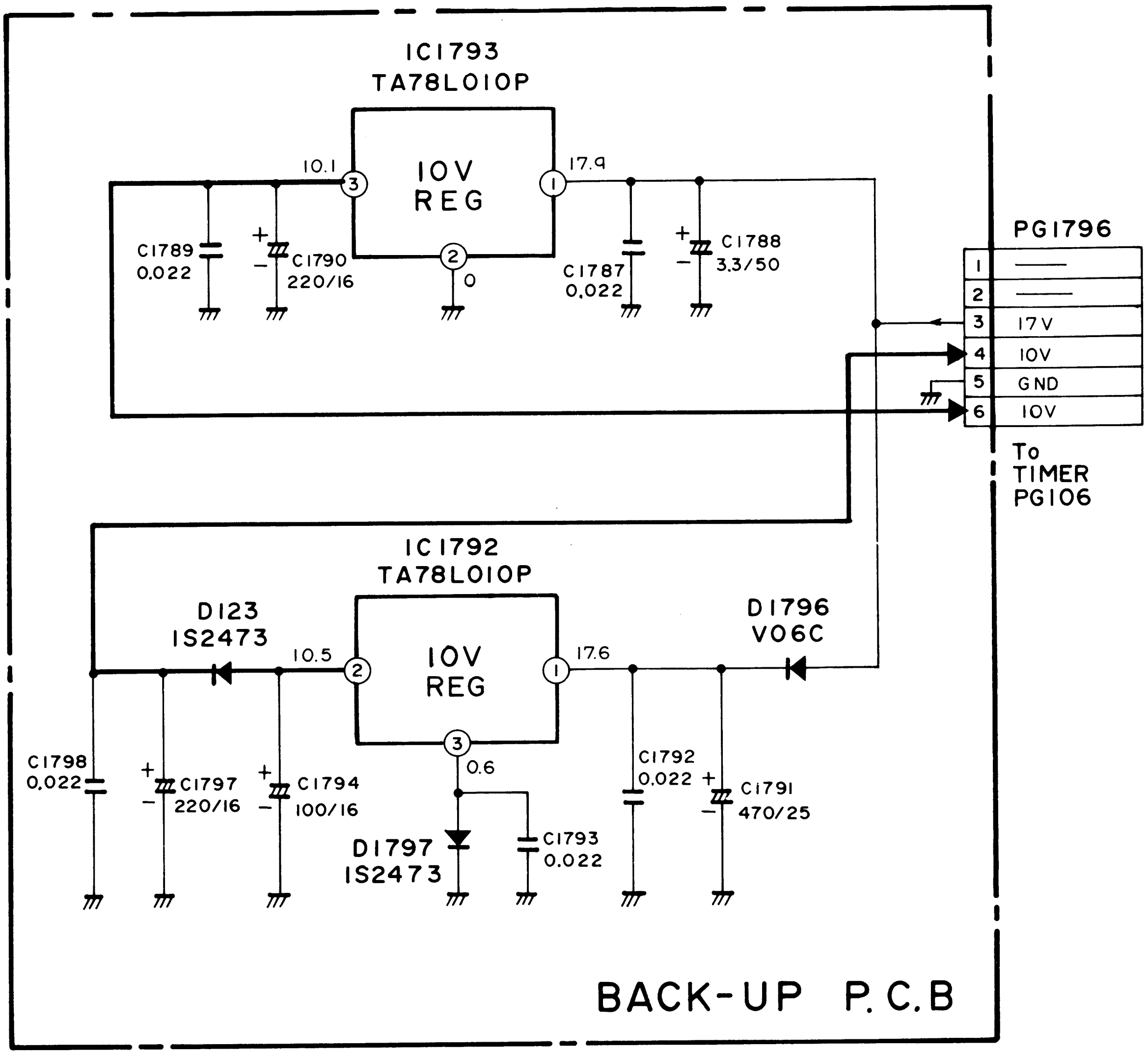
※ THIS CIRCUIT BOARD IS USED FOR RELAYING THE EARTH IN MODELS FOR THE UK.

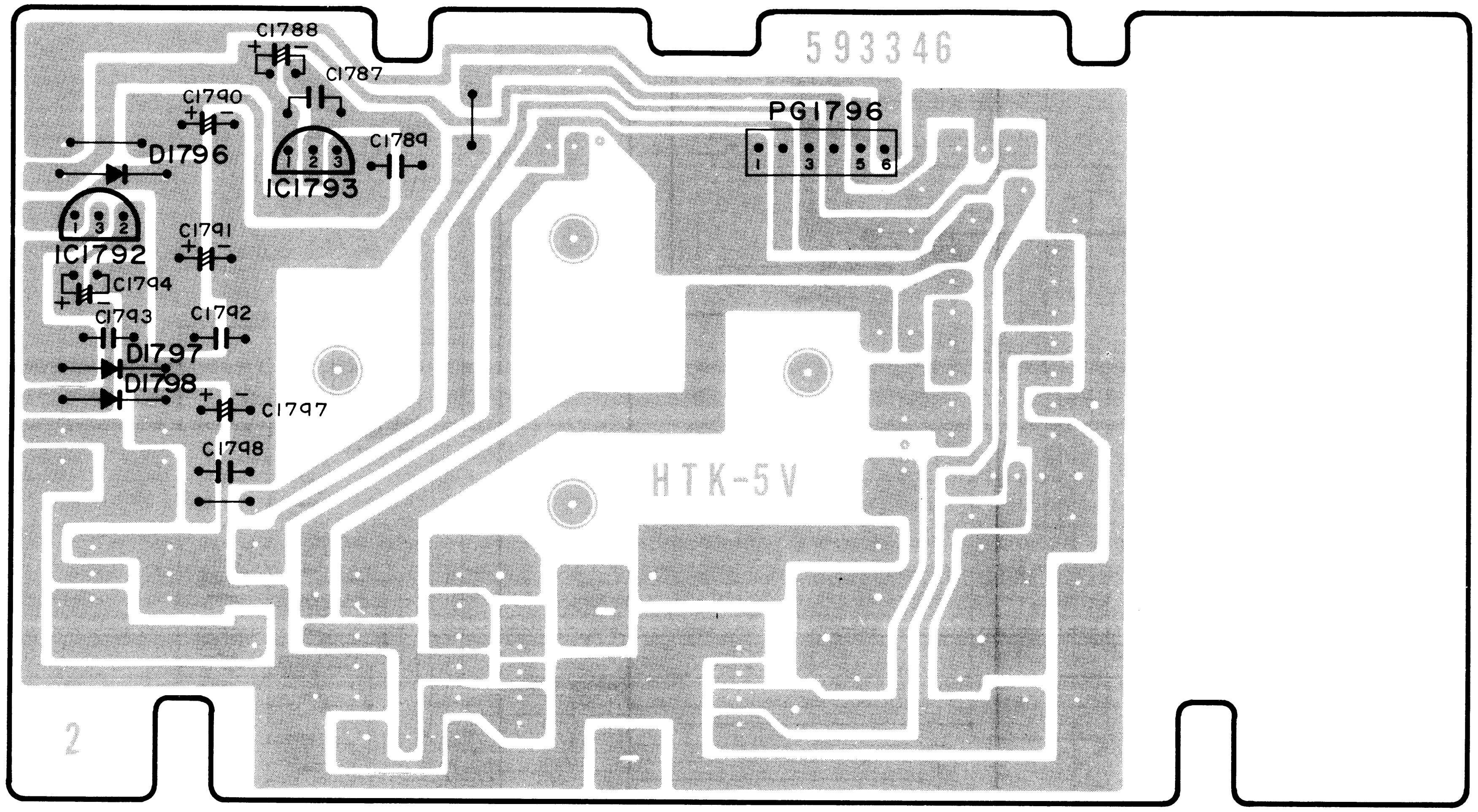

C1901
593326
RED
BLK
IC1901
C1903
C1902
C1904
R1904
BRN
RED
BLU
REGULATOR P.C.B
CN1902
GND 1
15V 2
BRN
RED
To SLOW PLAY /JACK PG617
CN1901
24V 1
17V 2
GND 3
RED
BLK
BLU
To SYSTEM CONTROL PG951


PG152
PG151
FU153
FU152
C161
C160
D156
C159
D155
D154
D153
C162
D157
C163
R153
D158
C157
C152
C154
R152
C158
R151
D152
D151
C155
C156
C153
C151
PNK
BRN
ORG
RED
593307
RCT KMCL-437F
CN151
BRN 1 24V
RED 2 17V
ORN 3 GND
To SYSTEM CONTROL PG901
T151 POWER TRANSFORMER
S151 MAIN SW
FU151 T630mA
(For UK model) 240V 50Hz
(Except for UK model) 220V 50Hz
PG151
1 AC 32V
2 AC 32V
3 AC 14V
4 AC 14V
PG152
1 -24V
2 GND
3 40V
4 17V
5 CLOCK
To TIMER PG104

RECTIFIER P.C.B

BACK-UP


IC1793
TA78L010P
10V
REG
10.1
17.9
C1789
0.022
C1790
220/16
0
C1787
0.022
C1788
3.3/50
PG1796
1
2
3 17V
4 10V
5 GND
6 10V
To
TIMER
PG106
IC1792
TA78L010P
D123
1S2473
D1796
V06C
10.5
17.6
C1798
0.022
C1797
220/16
C1794
100/16
0.6
D1797
1S2473
C1793
0.022
C1792
0.022
C1791
470/25
BACK-UP P.C.B

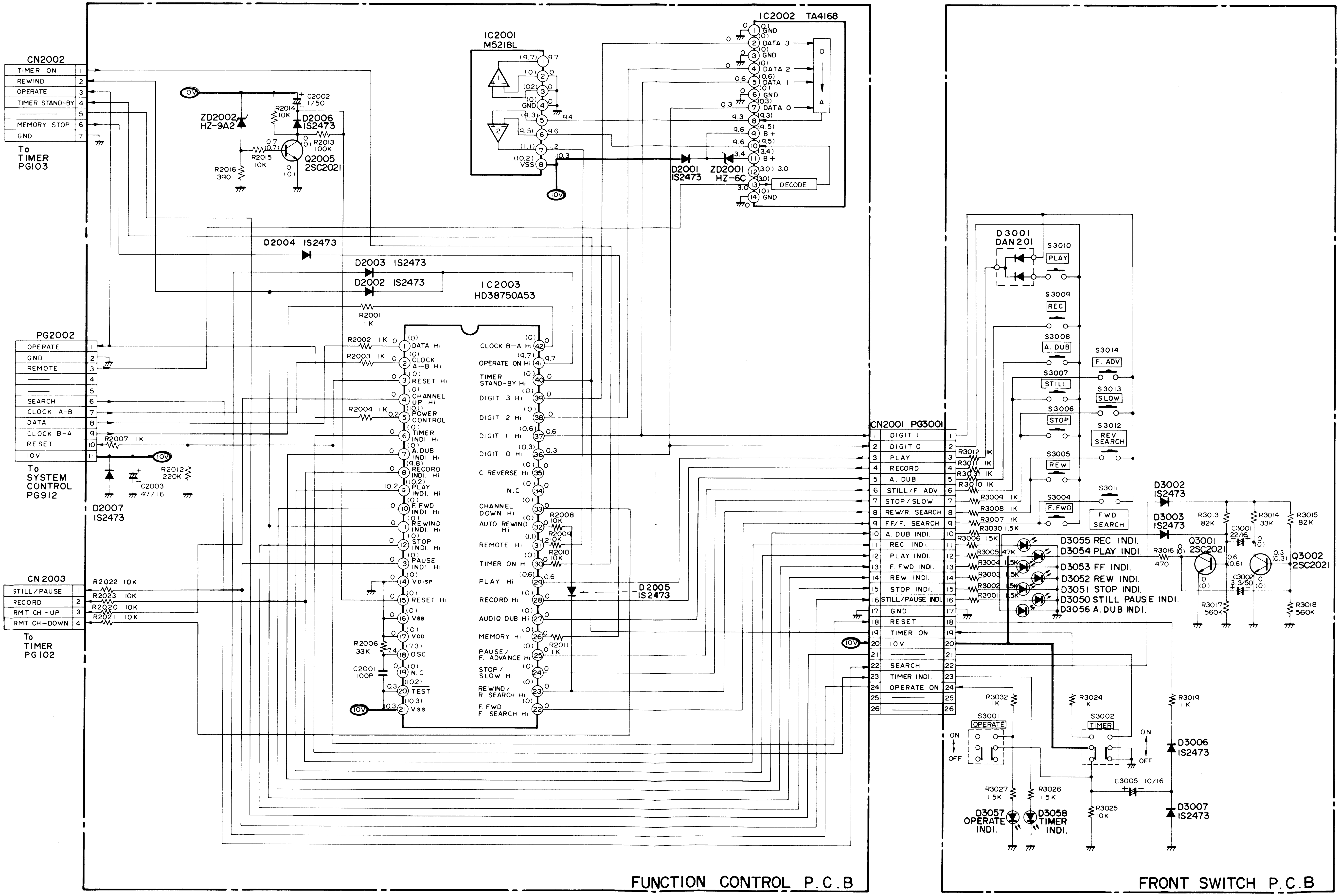

C1788
C1787
593346
C1790
C1789
PG1796
1
3
5
6
D1796
IC1793
1
2
3
IC1792
1
3
2
C1791
C1794
C1793
C1792
D1797
D1798
C1797
C1798
HTK-5V
2

BACK-UP P.C.B

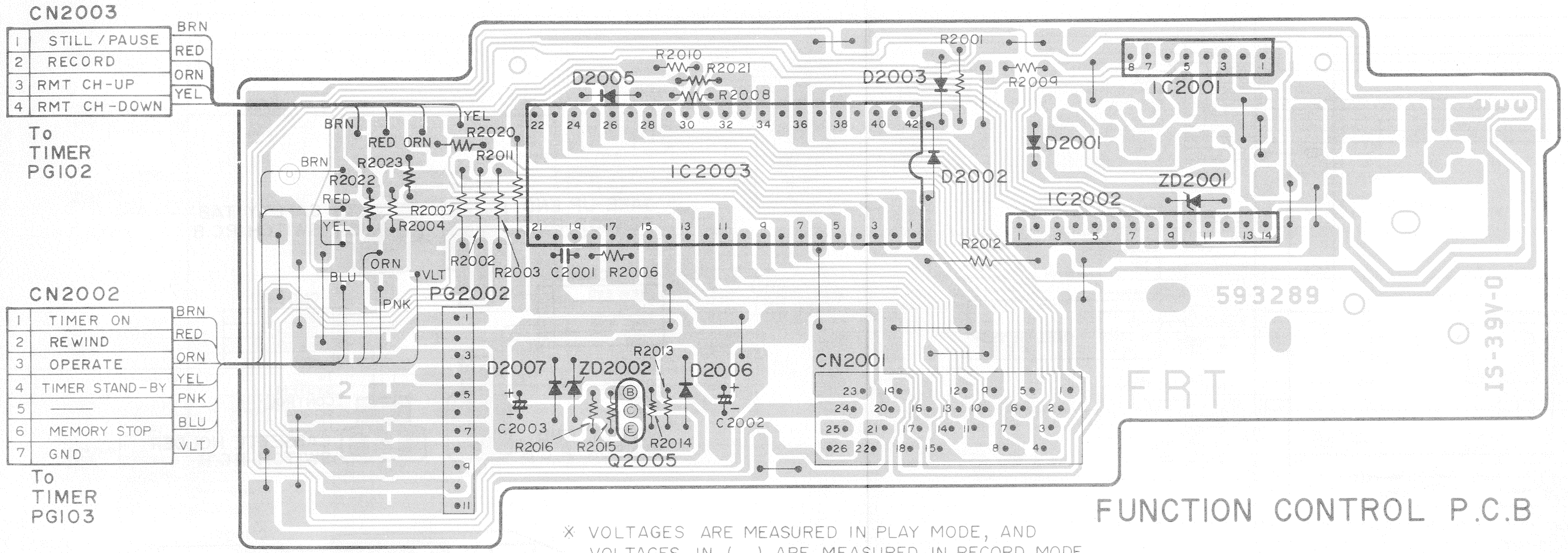
PG1796

1	—	To TIMER PG106
2	—	
3	17V	
4	10V	
5	GND	
6	10V	

FUNCTION CONTROL/FRONT SWITCH


CN2002
TIMER ON 1
REWIND 2
OPERATE 3
TIMER STAND-BY 4
5
MEMORY STOP 6
GND 7
To TIMER PG103
PG2002
OPERATE 1
GND 2
REMOTE 3
4
5
SEARCH 6
CLOCK A-B 7
DATA 8
CLOCK B-A 9
RESET 10
10V 11
To SYSTEM CONTROL PG912
CN2003
STILL/PAUSE 1
RECORD 2
RMT CH-UP 3
RMT CH-DOWN 4
To TIMER PG102
ZD2002 HZ-9A2
C2002 1/50
R2014 10K
D2006 1S2473
R2013 100K
R2015 10K
Q2005 2SC2021
R2016 390
IC2001 M5218L
VSS
GND
IC2002 TA4168
GND
DATA 3
DATA 2
DATA 1
DATA 0
B+
DECODE
D2001 1S2473
ZD2001 HZ-6C
D2004 1S2473
D2003 1S2473
D2002 1S2473
IC2003 HD38750A53
R2001 1K
R2002 1K
R2003 1K
R2004 1K
R2007 1K
R2012 220K
C2003 47/16
D2007 1S2473
R2022 10K
R2023 10K
R2020 10K
R2021 10K
R2006 33K
C2001 100P
R2008 10K
R2009 10K
R2010 10K
R2011 1K
D2005 1S2473
1 DATA Hi
2 CLOCK A-B Hi
3 RESET Hi
4 CHANNEL UP Hi
5 POWER CONTROL
6 TIMER INDI. Hi
7 A.DUB INDI. Hi
8 RECORD INDI. Hi
9 PLAY INDI. Hi
10 F.FWD INDI. Hi
11 REWIND INDI. Hi
12 STOP INDI. Hi
13 PAUSE INDI. Hi
14 VDISP
15 RESET Hi
16 VBB
17 VDD
18 OSC
19 N.C
20 TEST
21 VSS
42 CLOCK B-A Hi
41 OPERATE ON Hi
40 TIMER STAND-BY Hi
39 DIGIT 3 Hi
38 DIGIT 2 Hi
37 DIGIT 1 Hi
36 DIGIT 0 Hi
35 C REVERSE Hi
34 N.C
33 CHANNEL DOWN Hi
32 AUTO REWIND Hi
31 REMOTE Hi
30 TIMER ON Hi
29 PLAY Hi
28 RECORD Hi
27 AUDIO DUB Hi
26 MEMORY Hi
25 PAUSE/F. ADVANCE Hi
24 STOP/SLOW Hi
23 REWIND/R. SEARCH Hi
22 F.FWD F. SEARCH Hi
10V
CN2001 PG3001
1 DIGIT 1
2 DIGIT 0
3 PLAY
4 RECORD
5 A. DUB
6 STILL/F. ADV
7 STOP/SLOW
8 REW/R. SEARCH
9 FF/F. SEARCH
10 A. DUB INDI.
11 REC INDI.
12 PLAY INDI.
13 F. FWD INDI.
14 REW INDI.
15 STOP INDI.
16 STILL/PAUSE INDI.
17 GND
18 RESET
19 TIMER ON
20 10V
21
22 SEARCH
23 TIMER INDI.
24 OPERATE ON
25
26
FUNCTION CONTROL P.C.B
D3001 DAN201
S3010 PLAY
S3009 REC
S3008 A. DUB
S3007 STILL
S3006 STOP
S3005 REW
S3004 F.FWD
S3014 F. ADV
S3013 SLOW
S3012 REV SEARCH
S3011 FWD SEARCH
R3012 1K
R3011 1K
R3031 1K
R3010 1K
R3009 1K
R3008 1K
R3007 1K
R3030 1.5K
R3006 1.5K
R3005 47K
R3004 1.5K
R3003 1.5K
R3002 1.5K
R3001 1.5K
D3055 REC INDI.
D3054 PLAY INDI.
D3053 FF INDI.
D3052 REW INDI.
D3051 STOP INDI.
D3050 STILL PAUSE INDI.
D3056 A.DUB INDI.
D3002 1S2473
D3003 1S2473
R3013 82K
R3014 33K
R3015 82K
C3001 22/16
Q3001 2SC2021
Q3002 2SC2021
R3016 470
C3002 3.3/50
R3017 560K
R3018 560K
R3032 1K
S3001 OPERATE
R3024 1K
S3002 TIMER
R3019 1K
D3006 1S2473
ON
OFF
C3005 10/16
R3027 1.5K
R3026 1.5K
R3025 10K
D3007 1S2473
D3057 OPERATE INDI.
D3058 TIMER INDI.
FRONT SWITCH P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.


BRN
RED
ORN
YEL
VLT
PNK
BLU
D2005
R2010
R2021
R2008
R2001
D2003
R2009
IC2001
8 7 5 3 1
R2020
R2011
R2023
R2022
R2007
R2004
R2002
R2003
C2001
R2006
IC2003
22 24 26 28 30 32 34 36 38 40 42
21 19 17 15 13 11 9 7 5 3 1
D2002
D2001
ZD2001
IC2002
1 3 5 7 9 11 13 14
R2012
PG2002
1 3 5 7 9 11
D2007
ZD2002
R2013
D2006
C2003
R2016
R2015
Q2005
B C E
R2014
C2002
CN2001
23 19 12 9 5 1
24 20 16 13 10 6 2
25 21 17 14 11 7 3
26 22 18 15 8 4
593289
FRT
IS-39V-0
2

CN2003

1	STILL / PAUSE
2	RECORD
3	RMT CH-UP
4	RMT CH-DOWN

To
TIMER
PG102

CN2002

1	TIMER ON
2	REWIND
3	OPERATE
4	TIMER STAND-BY
5	———
6	MEMORY STOP
7	GND

To
TIMER
PG103

FUNCTION CONTROL P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND
VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

PG2002

1	OPERAT
2	GND
3	REMOTE
4	———
5	———
6	SEARCH
7	CLOCK A-B
8	DATA
9	CLOCK B-A
10	RESET
11	10V

To
SYSTEM
CONTROL
PG912

CN2001

1	DIGIT 1	14	REW INDI
2	DIGIT 0	15	STOP INDI
3	PLAY	16	STILL/PAUSE INDI.
4	RECORD	17	GND
5	A. DUB	18	RESET
6	STILL/F. ADV	19	TIMER ON
7	STOP/SLOW	20	10V
8	REW/R. SEARCH	21	———
9	FF/F. SEARCH	22	SEARCH
10	A. DUB INDI.	23	TIMER INDI
11	REC INDI	24	OPERATE ON
12	PLAY INDI	25	———
13	F. FWD INDI	26	———

To
FRONT SWITCH
PG3001

Q2004

B	0 (0)
C	3.0 (2.9)
E	0 (0)

Q2005

B	0.7 (0.7)
C	0 (0)
E	0 (0)

IC2001

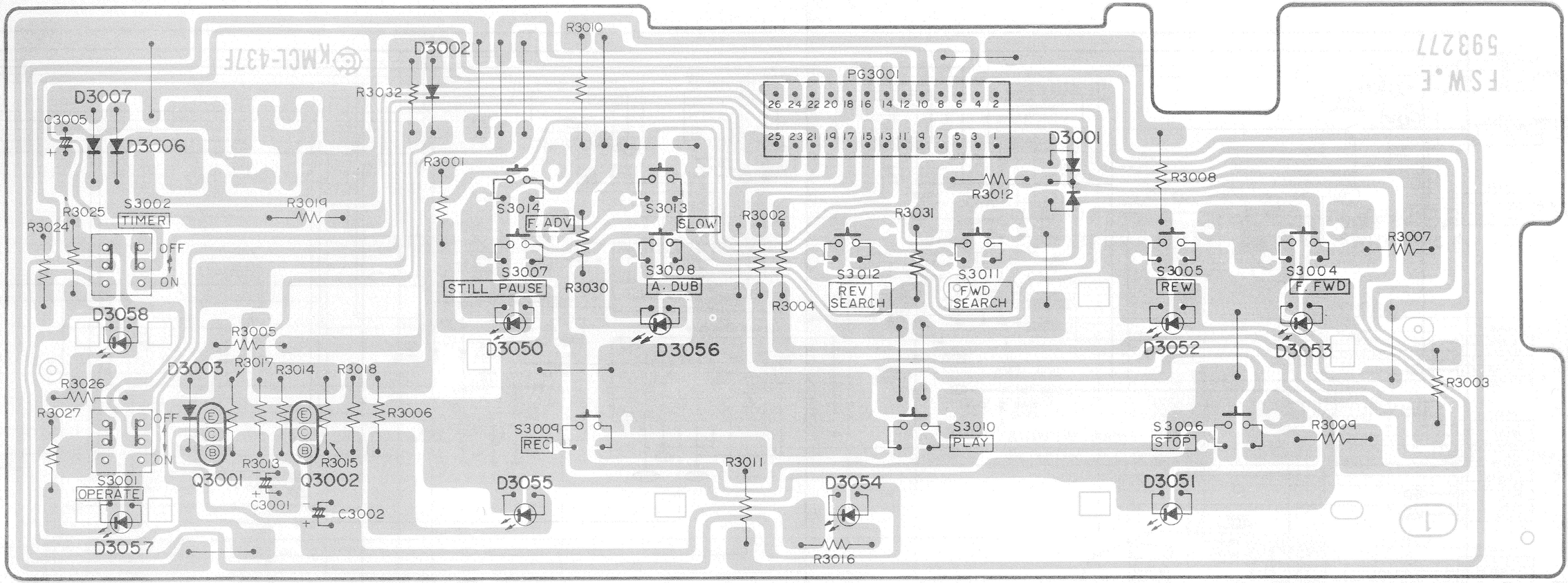
8	7	6	5	4	3	2	1
10.3 (10.2)	1.2 (1.1)	9.6 (9.5)	9.4 (9.3)	0 (0)	0 (0.2)	0 (0)	9.7 (9.7)

IC2002

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0 (0)	0 (0)	0 (0)	0 (0)	0.6 (0.6)	0 (0)	0.3 (0.3)	9.3 (9.3)	9.6 (9.5)	9.6 (9.5)	3.4 (3.4)	3.0 (3.0)	3.0 (3.0)	0 (0)

IC2003

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.6 (0.6)	0 (0)	1.2 (1.1)	0 (0)	0 (0)	0 (0)	0 (0)	0.3 (0.3)	0.6 (0.6)	0 (0)	0 (0)	0 (0)	9.7 (9.7)	0 (0)
21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
10.3 (10.3)	10.3 (10.2)	0 (0)	7.4 (7.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10.2 (10.2)	0 (9.8)	0 (0)	0 (0)	10.2 (10.1)	0 (0)	0 (0)	0 (0)	0 (0)


KMCL-437F
D3002
R3010
PG3001
26 24 22 20 18 16 14 12 10 8 6 4 2
25 23 21 19 17 15 13 11 9 7 5 3 1
D3007
C3005
D3006
R3032
R3001
D3001
R3008
R3012
R3031
R3025
S3002
TIMER
R3019
R3024
OFF
ON
S3014
F. ADV
S3013
SLOW
R3002
S3007
STILL PAUSE
R3030
S3008
A. DUB
R3004
S3012
REV SEARCH
S3011
FWD SEARCH
S3005
REW
S3004
F. FWD
R3007
D3058
R3005
D3050
D3056
D3052
D3053
R3003
D3003
R3017
R3014
R3018
R3026
R3027
R3006
E
C
B
S3009
REC
S3010
PLAY
S3006
STOP
R3009
R3013
R3015
Q3001
Q3002
C3001
C3002
R3011
S3001
OPERATE
D3055
D3054
D3051
D3057
R3016

FRONT SWITCH P.C.B

PG3001

1	DIGIT 1	14	REW INDI.
2	DIGIT 0	15	STOP INDI.
3	PLAY	16	STILL/PAUSE INDI.
4	RECORD	17	GND
5	A. DUB	18	RESET
6	STILL/F. ADV	19	TIMER ON
7	STOP/SLOW	20	10V
8	REW/R. SEARCH	21	——
9	FF/F. SEARCH	22	SEARCH
10	A. DUB INDI.	23	TIMER INDI.
11	REC INDI.	24	OPERATE ON
12	PLAY INDI.	25	——
13	F. FWD INDI.	26	——

To FUNCTION CONTROL CN2001

Q3001

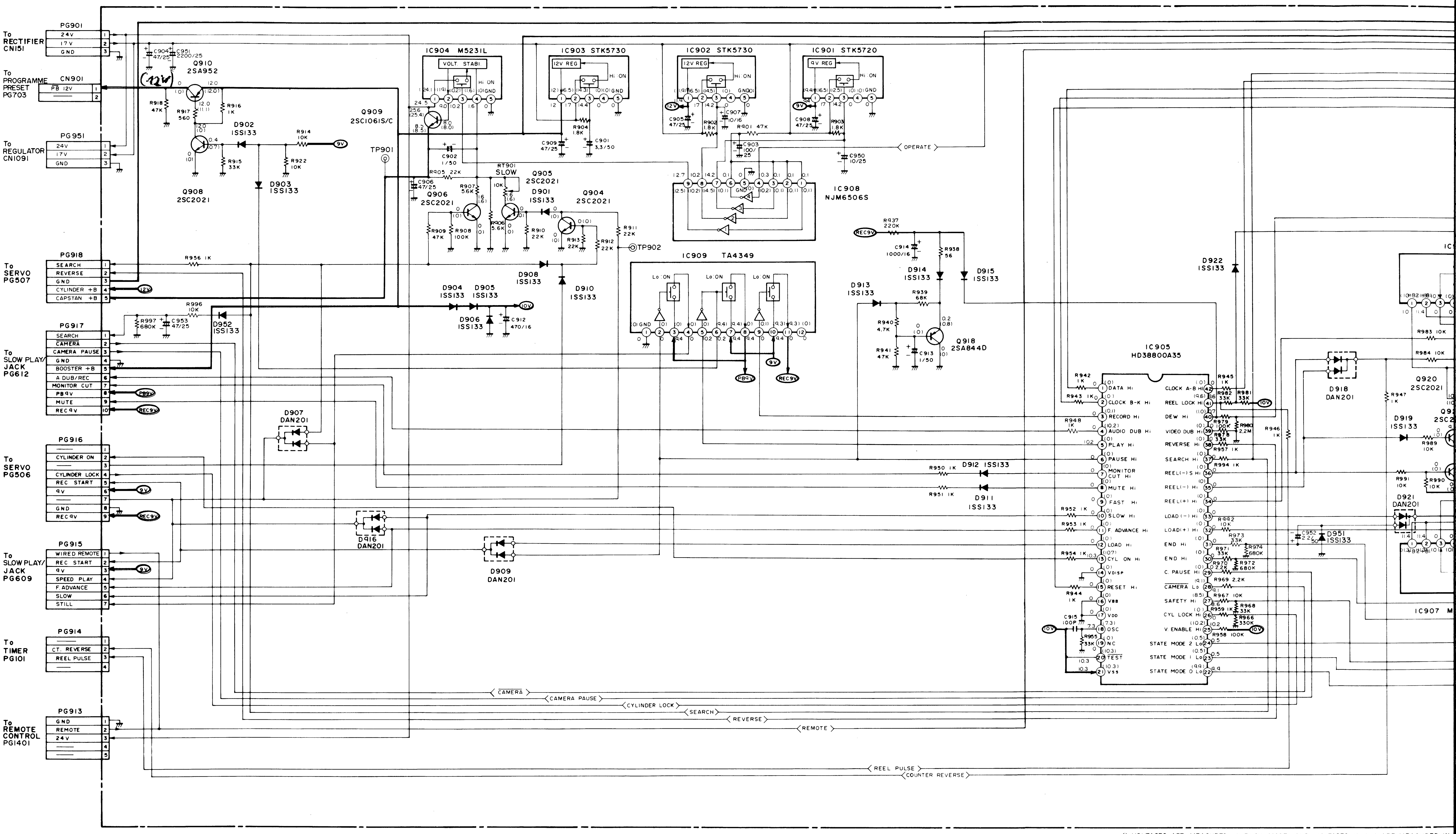
B	0.6 (0.6)
C	0 (0)
E	0 (0)

Q3002

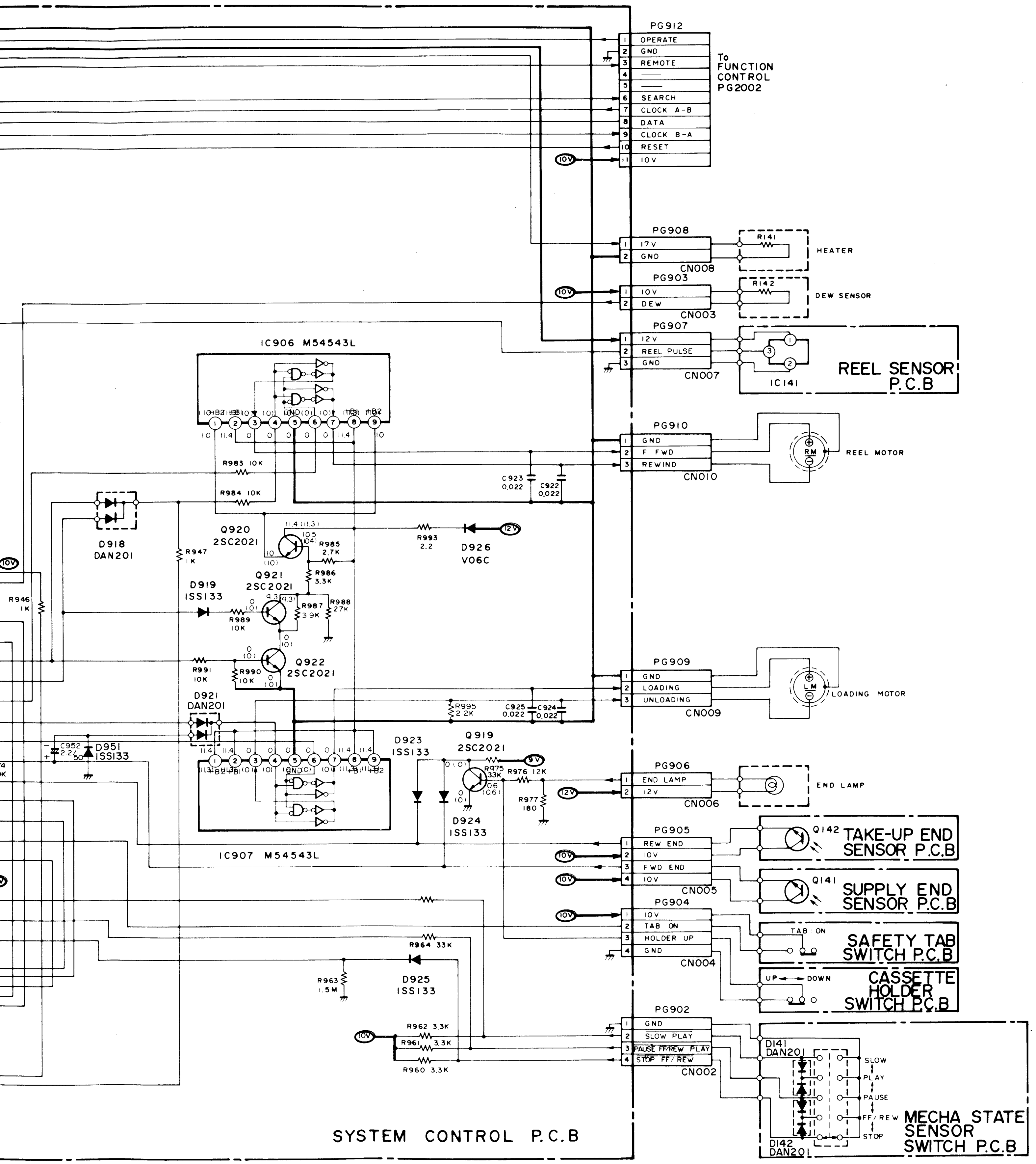
B	0.3 (0.3)
C	0 (0)
E	0 (0)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

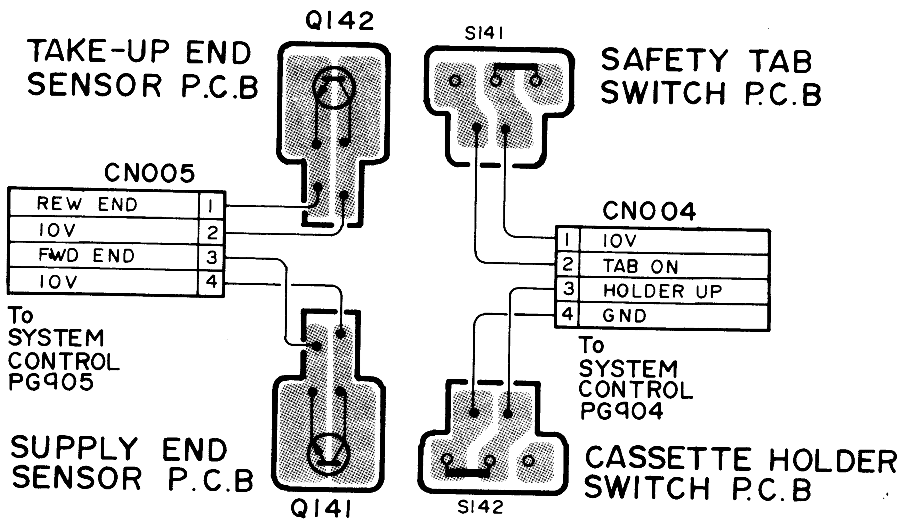
SYSTEM CONTROL

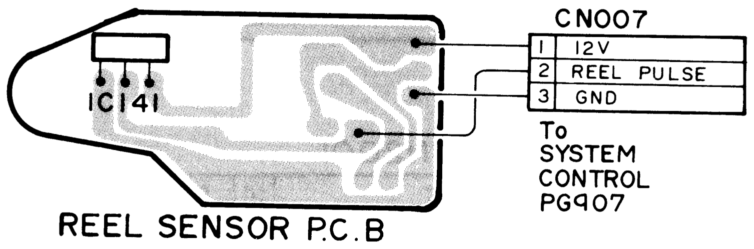

To RECTIFIER CN151
PG901
24V
17V
GND
To PROGRAMME PRESET PG703
CN901
PB 12V
(12V)
To REGULATOR CN1091
PG951
24V
17V
GND
To SERVO PG507
PG918
SEARCH
REVERSE
GND
CYLINDER +B
CAPSTAN +B
To SLOW PLAY/ JACK PG612
PG917
SEARCH
CAMERA
CAMERA PAUSE
GND
BOOSTER +B
A DUB/REC
MONITOR CUT
PB9V
MUTE
REC9V
To SERVO PG506
PG916
CYLINDER ON
CYLINDER LOCK
REC START
9V
GND
REC9V
To SLOW PLAY/ JACK PG609
PG915
WIRED REMOTE
REC START
9V
SPEED PLAY
F.ADVANCE
SLOW
STILL
To TIMER PG101
PG914
CT. REVERSE
REEL PULSE
To REMOTE CONTROL PG1401
PG913
GND
REMOTE
24V
C904 47/25
C951 2200/25
Q910 2SA952
R918 47K
R917 560
R916 1K
Q908 2SC2021
D902 1SS133
R915 33K
R914 10K
R922 10K
D903 1SS133
Q909 2SC1061S/C
TP901
IC904 M5231L
VOLT. STABI
Hi: ON
IC903 STK5730
12V REG
IC902 STK5730
12V REG
IC901 STK5720
9V REG
C902 1/50
C906 47/25
R905 22K
RT901 SLOW
Q905 2SC2021
Q906 2SC2021
R907 56K
R906 5.6K
D901 1SS133
Q904 2SC2021
R909 47K
R908 100K
R910 22K
R913 22K
R912 22K
R911 22K
TP902
C909 47/25
R904 1.8K
C901 3.3/50
C905 47/25
R902 1.8K
C907 10/16
R901 47K
C903 100/25
C908 47/25
R903 1.8K
C950 10/25
OPERATE
IC908 NJM6506S
R956 1K
D908 1SS133
D910 1SS133
D904 1SS133
D905 1SS133
D906 1SS133
C912 470/16
R996 10K
R997 680K
C953 47/25
D952 1SS133
IC909 TA4349
Lo: ON
D907 DAN201
D916 DAN201
D909 DAN201
R937 220K
C914 1000/16
R938 56
D913 1SS133
D914 1SS133
D915 1SS133
R939 68K
R940 4.7K
R941 47K
C913 1/50
Q918 2SA844D
IC905 HD38800A35
DATA Hi
CLOCK B-K Hi
RECORD Hi
AUDIO DUB Hi
PLAY Hi
PAUSE Hi
MONITOR CUT Hi
MUTE Hi
FAST Hi
SLOW Hi
F. ADVANCE Hi
LOAD Hi
CYL ON Hi
VDISP
RESET Hi
VBB
VDD
OSC
NC
TEST
VSS
CLOCK A-B Hi
REEL LOCK Hi
DEW Hi
VIDEO DUB Hi
REVERSE Hi
SEARCH Hi
REEL(-)S Hi
REEL(-) Hi
REEL(+) Hi
LOAD(-) Hi
LOAD(+) Hi
END Hi
END Hi
C. PAUSE Hi
CAMERA Lo
SAFETY Hi
CYL LOCK Hi
V ENABLE Hi
STATE MODE 2 Lo
STATE MODE 1 Lo
STATE MODE 0 Lo
R942 1K
R943 1K
R948 1K
R950 1K
D912 1SS133
R951 1K
D911 1SS133
R952 1K
R953 1K
R954 1K
R944 1K
C915 100P
R955 33K
R945 1K
R982 33K
R981 33K
R979 100K
R980 2.2M
R978 33K
R957 1K
R994 1K
R992 10K
R973 33K
R971 33K
R974 680K
R970 2.2K
R972 680K
R969 2.2K
R967 10K
R968 33K
R959 1K
R966 330K
R958 100K
R946 1K
D922 1SS133
D918 DAN201
R947 1K
D919 1SS133
R989 10K
R991 10K
R990 10K
D921 DAN201
C952 2.2/50
D951 1SS133
Q920 2SC2021
R983 10K
R984 10K
IC907
10V
9V
12V
PB9V
REC9V
CAMERA
CAMERA PAUSE
CYLINDER LOCK
SEARCH
REVERSE
REMOTE
REEL PULSE
COUNTER REVERSE

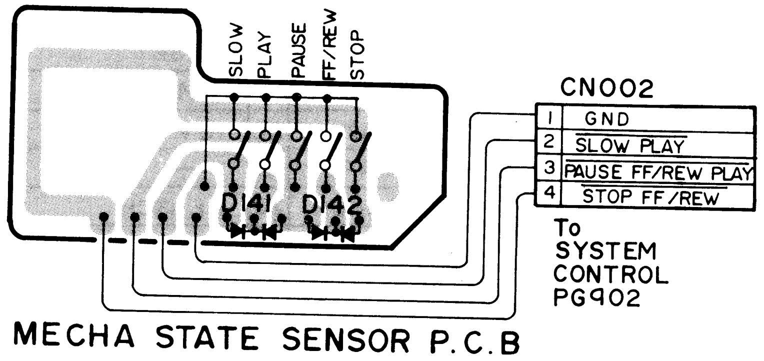
X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN


PG912
1 OPERATE
2 GND
3 REMOTE
4
5 ——
6 SEARCH
7 CLOCK A-B
8 DATA
9 CLOCK B-A
10 RESET
11 10V
To FUNCTION CONTROL PG2002
PG908
1 17V
2 GND
CN008
R141
HEATER
PG903
1 10V
2 DEW
CN003
R142
DEW SENSOR
PG907
1 12V
2 REEL PULSE
3 GND
CN007
IC141
REEL SENSOR P.C.B
IC906 M54543L
PG910
1 GND
2 F FWD
3 REWIND
CN010
C923 0.022
C922 0.022
RM
REEL MOTOR
R983 10K
R984 10K
D918 DAN201
Q920 2SC2021
R947 1K
R985 2.7K
R986 3.3K
R993 2.2
D926 V06C
12V
Q921 2SC2021
D919 1SS133
R989 10K
R987 3.9K
R988 27K
R946 1K
R991 10K
R990 10K
Q922 2SC2021
PG909
1 GND
2 LOADING
3 UNLOADING
CN009
LM
LOADING MOTOR
D921 DAN201
R995 2.2K
C925 0.022
C924 0.022
C952 2.2/50
D951 1SS133
D923 1SS133
Q919 2SC2021
R975 33K
R976 12K
R977 180
9V
D924 1SS133
IC907 M54543L
PG906
1 END LAMP
2 12V
CN006
END LAMP
PG905
1 REW END
2 10V
3 FWD END
4 10V
CN005
Q142 TAKE-UP END SENSOR P.C.B
Q141 SUPPLY END SENSOR P.C.B
PG904
1 10V
2 TAB ON
3 HOLDER UP
4 GND
CN004
TAB ON
SAFETY TAB SWITCH P.C.B
UP DOWN
CASSETTE HOLDER SWITCH P.C.B
R964 33K
D925 1SS133
R963 1.5M
PG902
1 GND
2 SLOW PLAY
3 PAUSE FF/REW PLAY
4 STOP FF/REW
CN002
R962 3.3K
R961 3.3K
R960 3.3K
D141 DAN201
D142 DAN201
SLOW
PLAY
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH P.C.B
SYSTEM CONTROL P.C.B
10V

Y MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE


Q142
TAKE-UP END SENSOR P.C.B
S141
SAFETY TAB SWITCH P.C.B
CN005
REW END 1
10V 2
FWD END 3
10V 4
To SYSTEM CONTROL PG905
CN004
1 10V
2 TAB ON
3 HOLDER UP
4 GND
To SYSTEM CONTROL PG904
SUPPLY END SENSOR P.C.B
Q141
S142
CASSETTE HOLDER SWITCH P.C.B


IC141
CN007
1 12V
2 REEL PULSE
3 GND
To SYSTEM CONTROL PG907
REEL SENSOR P.C.B


SLOW
PLAY
PAUSE
FF/REW
STOP
D141
D142
CN002
1 GND
2 SLOW PLAY
3 PAUSE FF/REW PLAY
4 STOP FF/REW
To SYSTEM CONTROL PG902
MECHA STATE SENSOR P.C.B

To
FUNCTION
CONTROL
PG2002

PG912	
OPERATE	1
GND	2
REMOTE	3
——	4
——	5
SEARCH	6
CLOCK A-B	7
DATA	8
CLOCK B-A	9
RESET	10
10 V	11

To
REMOTE
CONTROL
PG1401

PG913	
GND	1
REMOTE	2
24 V	3
——	4
——	5

To
TIMER
PG101

PG914	
——	1
CT. REVERSE	2
REEL PULSE	3
——	4

To
SLOW
PLAY
/ JACK
PG609

PG915	
WIRED REMOTE	1
REC START	2
9 V	3
SPEED PLAY	4
F. ADVANCE	5
SLOW	6
STILL	7

To
SERVO
PG506

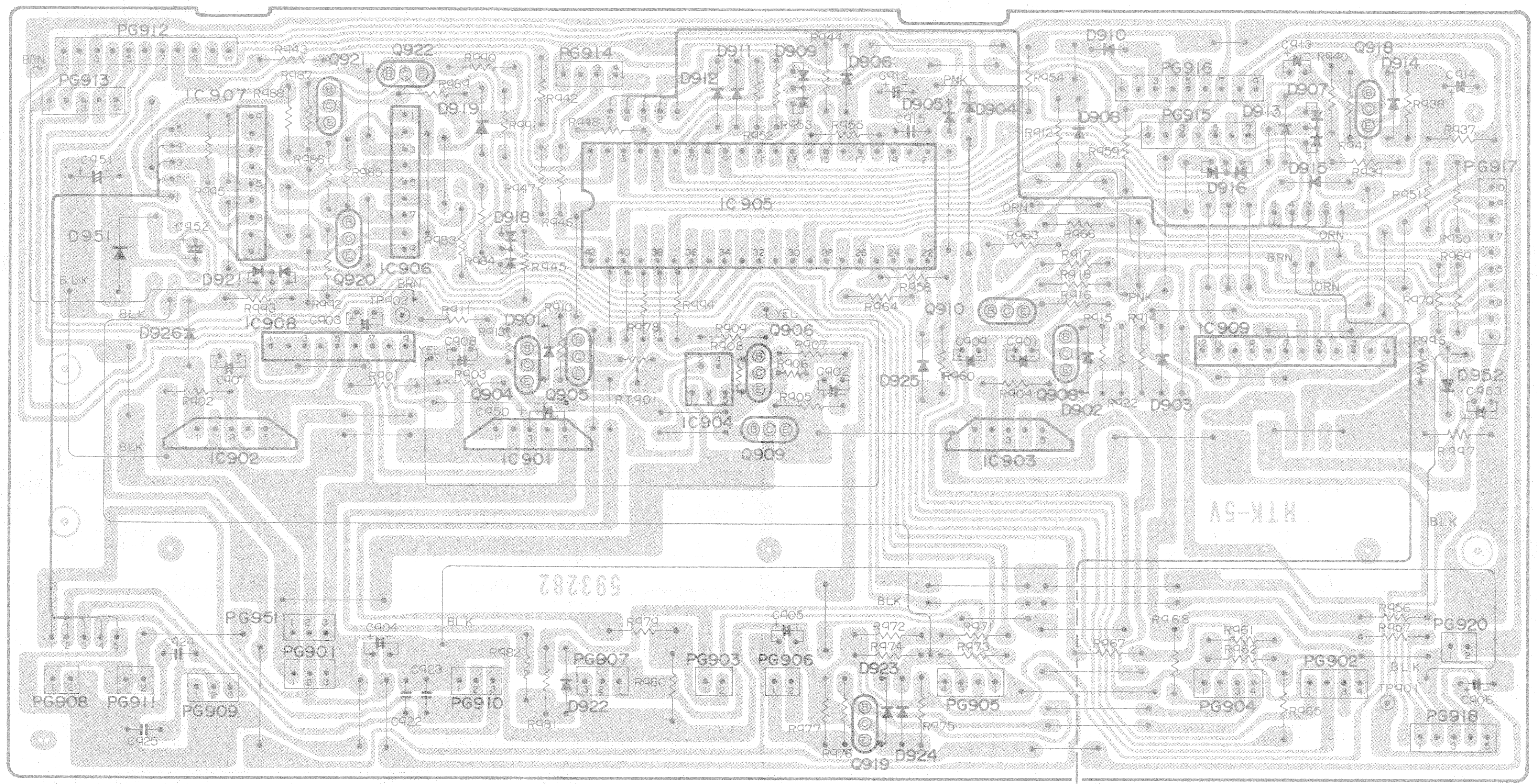
PG916	
——	1
CYLINDER ON	2
——	3
CYLINDER LOCK	4
REC START	5
9 V	6
——	7
GND	8
REC 9 V	9

To
SLOW
PLAY
/ JACK
PG612

PG917	
SEARCH	1
CAMERA	2
CAMERA PAUSE	3
GND	4
BOOSTER +B	5
A. DUB/REC	6
MONITOR CUT	7
PB 9 V	8
MUTE	9
REC 9 V	10

To
SERVO
PG507

PG918	
SEARCH	1
REVERSE	2
GND	3
CYLINDER +B	4
CAPSTAN +B	5


PG912
PG913
PG914
PG915
PG916
PG917
PG918
PG920
PG951
PG901
PG902
PG903
PG904
PG905
PG906
PG907
PG908
PG909
PG910
PG911
IC901
IC902
IC903
IC904
IC905
IC906
IC907
IC908
IC909
Q904
Q905
Q906
Q908
Q909
Q910
Q918
Q919
Q920
Q921
Q922
D901
D902
D903
D904
D905
D906
D907
D908
D909
D910
D911
D912
D913
D914
D915
D916
D918
D919
D921
D922
D923
D924
D925
D926
D951
D952
TP901
TP902
RT901
BRN
BLK
YEL
PNK
ORN
593282
HTK-5V

SYSTEM CONTROL P.C.B

PG901	
1	24 V
2	17 V
3	GND

To
RECTIFIER
CN151

PG902	
1	GND
2	SLOW PLAY
3	PAUSE FF/REW PLAY
	STOP FF/REW

To
MECHA
STATE
SENSOR SW
CN002

PG903	
1	10 V
2	DEW

To
DEW SENSOR
CN003

PG904	
1	10 V
2	TAB ON
3	HOLDER UP
4	GND

To
SAFETY TAB
CASSETTE
HOLDER SW
CN004

PG905	
1	REW END
2	10 V
3	FWD END
4	10 V

To
SUPPLY
END SENSOR
CN005

PG906	
1	END LAMP
2	12 V

To
END LAMP
CN006

PG907	
1	12 V
2	REEL PULSE
3	GND

To
REEL
SENSOR
CN007

PG908	
1	17 V
2	GND

To
HEATER
CN008

PG909	
1	GND
2	LOADING
3	UNLOADING

To
LOADING
MOTOR
CN009

PG910	
1	GND
2	F. FWD
3	REWIND

To
REEL
MOTOR
CN010

PG920	
1	GND
2	CYLINDER ON

NC

PG911	
1	17 V
2	17 V

NC

BRN
ORN

CN901	
1	PB 12V
2	——

To
PROGRAMME
PRESET
PG703

PG951	
1	24 V
2	17 V
3	GND

To
REGULATOR
CN1901

Q904	
B	0 (0)
C	0 (0)
E	0 (0)

Q905	
B	0 (0)
C	1.6 (1.6)
E	0 (0)

B	0
C	1.6
E	0

Q918	
B	0 (0)
C	0 (0)
E	0.2 (0.8)

Q919	
B	0.6 (0.6)
C	0 (0)
E	0 (0)

Q9	
B	10.5
C	11.4
E	10.0

IC906	
1	10.0 (10.0)
2	11.4 (11.3)
3	0 (0)
4	0 (0)
5	0 (0)
6	0 (0)
7	0 (0)
8	11.4 (11.3)
9	10.0 (10.0)

1	2
12.0 (12.0)	17.0 (16.5)

1	2
24.5 (24.1)	9.0 (9.0)

1	2	3
0.1 (0.1)	0.1 (0.1)	0.1 (0.1)

IC907	
9	11.4 (11.3)
8	11.4 (11.3)
7	0 (0)
6	0 (0)
5	0 (0)
4	0 (0)
3	0 (0)
2	11.4 (11.3)
1	11.4 (11.3)

12	11	10
0 (0)	0 (9.3)	9.4 (9.3)

1	2	3	4	5	6	7	8	9	10
0 (0)	0 (0)	0 (10.1)	0 (10.2)	10.2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
42	41	40	39	38	37	36	35	34	33
0 (0)	9.6 (9.6)	0.7 (1.0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

※ VOLTA
VOLTA

Q905

B	0 (0)
C	1.6 (1.6)
E	0 (0)

Q906

		REV.	FWD.
B	0 (0)	0.6	0.6
C	1.6 (1.6)	0	0
E	0 (0)	0	0

Q908

B	0.4 (0.7)
C	12.0 (0)
E	0 (0)

Q909

		REV.	FWD.
B	8.0 (8.0)	14.6	14.6
C	25.6 (25.4)	24.5	25.0
E	8.5 (8.5)	15.2	15.2

Q910

B	12.0 (11.1)
C	0 (11.8)
E	12.0 (12.0)

Q919

B	0.6 (0.6)
C	0 (0)
E	0 (0)

Q920

B	10.5 (10.4)
C	11.4 (11.3)
E	10.0 (10.0

Q921

B	1.6 (1.6)
C	9.3 (9.3)
E	9.3 (9.3)

Q922

B	0 (0.1)
C	0 (0)
E	0 (0)

IC901

1	2	3	4	5
9.4 (9.4)	17.0 (16.5)	12.7 (12.5)	0 (0)	0 (0)

IC903

1	2	3	4	5
12.0 (12.0)	17.0 (16.5)	14.4 (14.3)	0 (0)	0 (0)

IC902

1	2	3	4	5
11.9 (11.9)	17.0 (16.5)	14.2 (14.5)	0 (0)	0 (0)

IC904

1	2	3	4	5
24.5 (24.1)	9.0 (9.0)	10.2 (10.2)	1.6 (1.6)	0 (0)

IC908

1	2	3	4	5	6	7	8	9
0.1 (0.1)	0.1 (0.1)	0.1 (0.1)	10.3 (10.2)	0 (0)	0.1 (0.1)	14.2 (14.5)	10.2 (10.2)	12.7 (12.5)

IC909

12	11	10	9	8	7	6	5	4	3	2	1
0 (0)	0 (9.3)	9.4 (9.3)	0 (10.1)	9.4 (0)	9.4 (9.4)	0.2 (9.4)	10.2 (0)	0 (0)	9.4 (0)	0 (0)	0 (0)

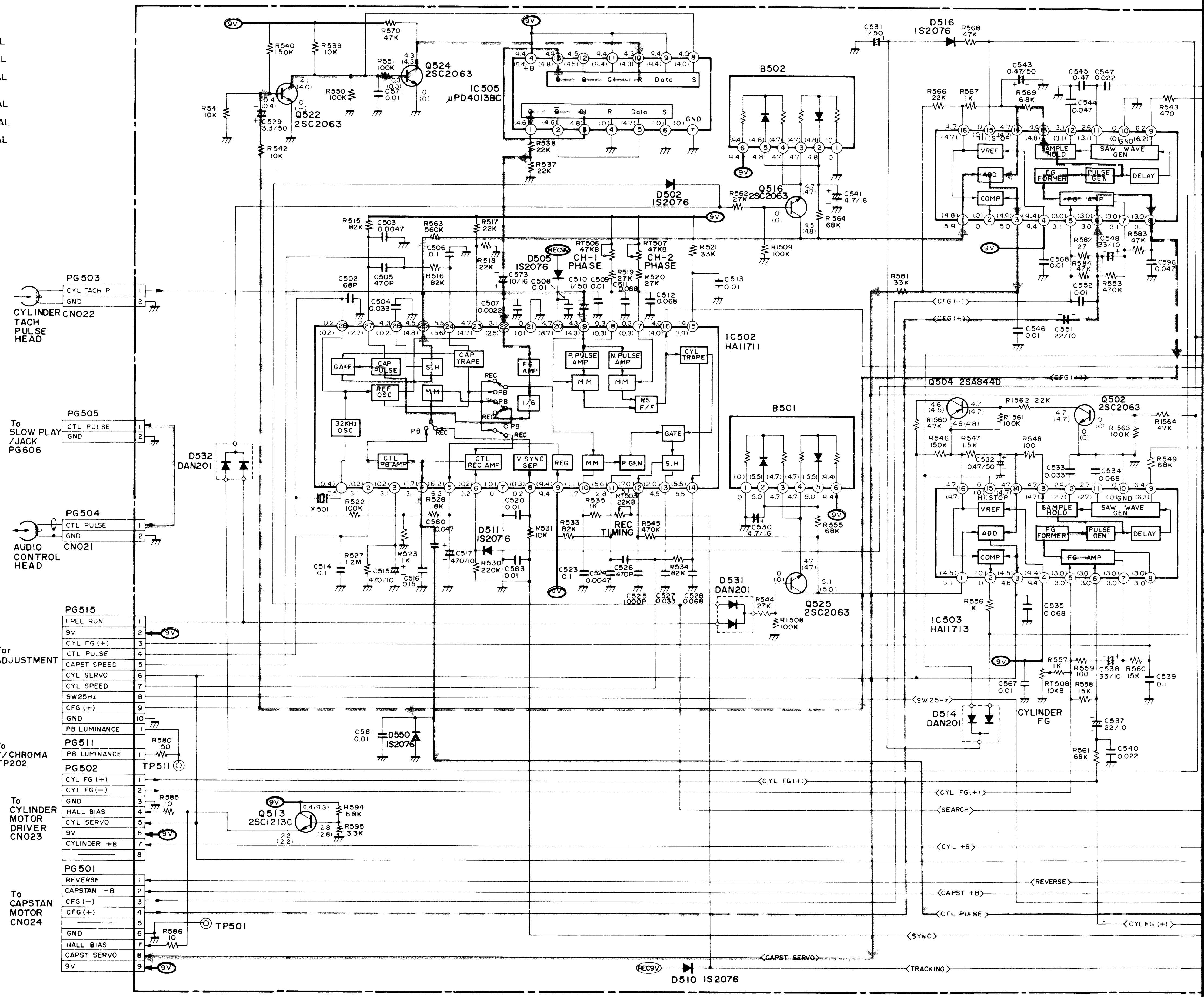
IC905

8	9	10	11	12	13	14	15	16	17	18	19	20	21
0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	10.3 (10.7)	0 (0)	0 (0)	0 (0)	0 (0)	7.3 (7.3)	0 (0)	10.3 (10.3)	10.3 (10.3)
35	34	33	32	31	30	29	28	27	26	25	24	23	22
0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	9.1 (9.1)	8.6 (8.5)	0 (0)	10.2 (10.2)	0.5 (0.5)	0.5 (0.5)	9.9 (9.9)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND
VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

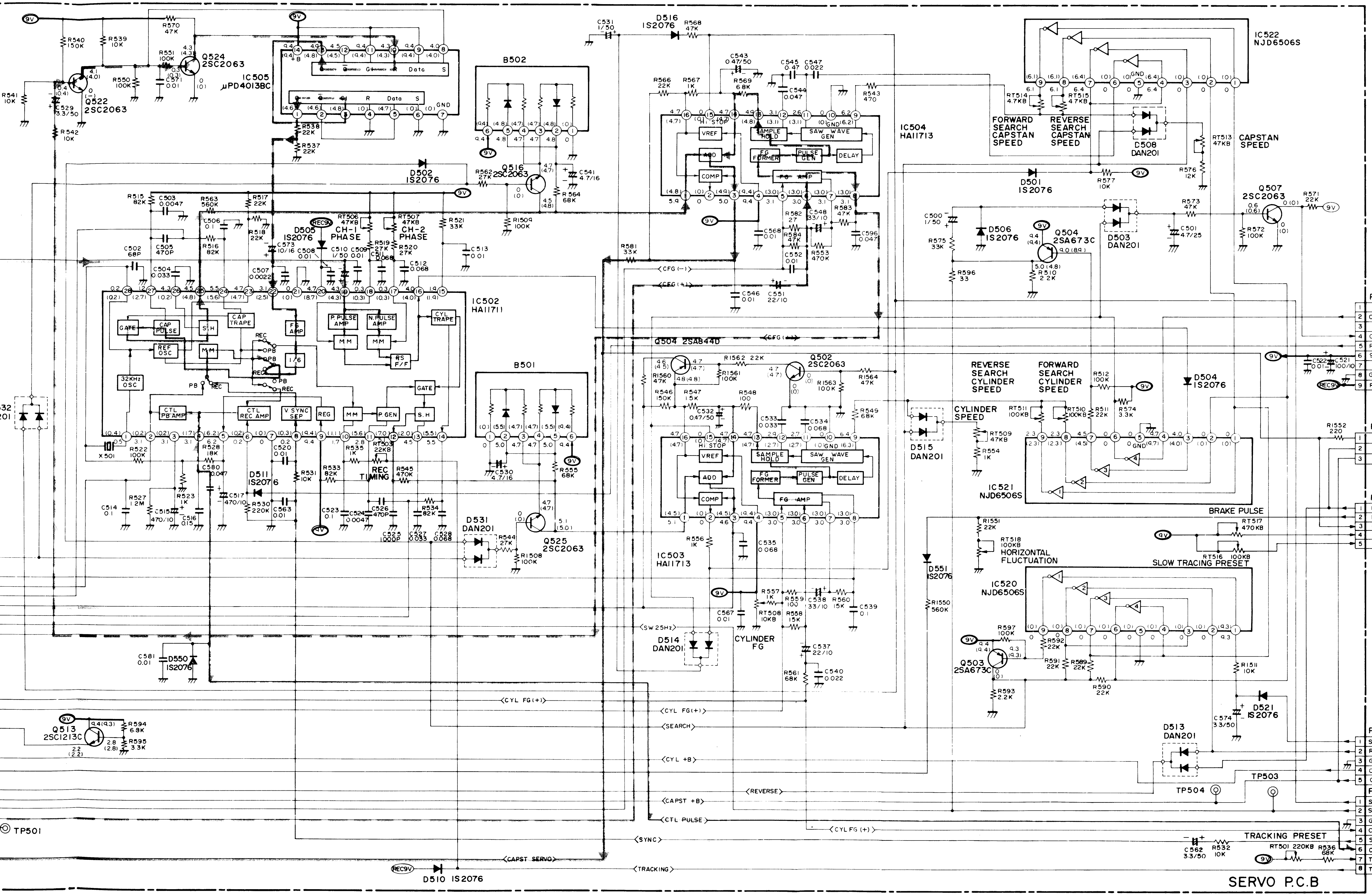
SERVO

REC/PB CAPSTAN MOTOR SIGNAL
REC CAPSTAN MOTOR SIGNAL
PB CAPSTAN MOTOR SIGNAL
REC/PB CYLINDER MOTOR SIGNAL
REC CYLINDER MOTOR SIGNAL
PB CYLINDER MOTOR SIGNAL



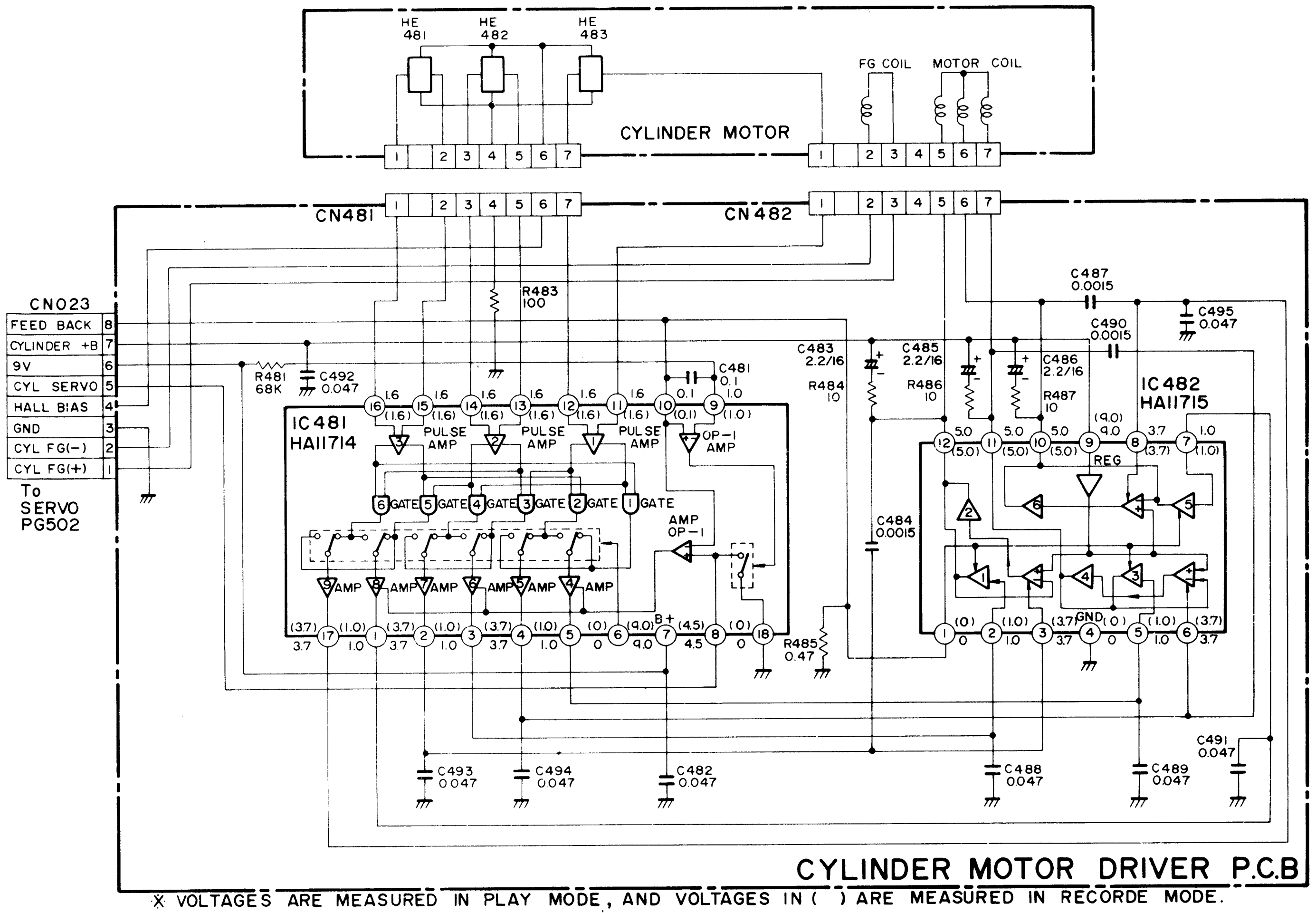
CYLINDER TACH PULSE HEAD
PG503
CYL TACH P
GND
CN022
To SLOW PLAY /JACK PG606
PG505
CTL PULSE
GND
D532 DAN201
AUDIO CONTROL HEAD
PG504
CTL PULSE
GND
CN021
For ADJUSTMENT
PG515
FREE RUN
9V
CYL FG(+)
CTL PULSE
CAPST SPEED
CYL SERVO
CYL SPEED
SW25Hz
CFG (+)
GND
PB LUMINANCE
To Y/CHROMA TP202
PG511
PB LUMINANCE
R580 150
TP511
To CYLINDER MOTOR DRIVER CN023
PG502
CYL FG (+)
CYL FG(−)
GND
HALL BIAS
CYL SERVO
9V
CYLINDER +B
R585 10
Q513 2SC1213C
R594 6.8K
R595 3.3K
To CAPSTAN MOTOR CN024
PG501
REVERSE
CAPSTAN +B
CFG (−)
CFG (+)
GND
HALL BIAS
CAPST SERVO
9V
R586 10
TP501
Q522 2SC2063
Q524 2SC2063
R540 150K
R539 10K
R570 47K
R551 100K
R550 100K
C571 0.01
R541 10K
C529 3.3/50
R542 10K
IC505 μPD4013BC
Data
R538 22K
R537 22K
B502
D502 IS2076
R562 27K
Q516 2SC2063
C541 4.7/16
R564 68K
R1509 100K
R515 82K
C503 0.0047
R563 560K
R517 22K
C506 0.1
R518 22K
D505 IS2076
RT506 47KB CH-1 PHASE
RT507 47KB CH-2 PHASE
R521 33K
C502 68P
C505 470P
R516 82K
C573 10/16
C508 0.01
C510 1/50
C509 0.01
C511 0.068
R519 27K
R520 27K
C512 0.068
C513 0.01
C504 0.033
C507 0.0022
IC502 HA11711
GATE
CAP PULSE
S.H
CAP TRAPE
FG AMP
P.PULSE AMP
N.PULSE AMP
CYL TRAPE
REF OSC
MM
1/6
RS F/F
32KHz OSC
CTL PB AMP
CTL REC AMP
V SYNC SEP
REG
P GEN
X501
R522 100K
R528 18K
C580 0.047
C520 0.01
R531 10K
R533 82K
R535 1K
RT503 22KB
REC TIMING
R545 470K
R534 82K
D511 IS2076
R527 1.2M
C514 0.1
C515 470/10
R523 1K
C516 0.15
C517 470/10
R530 220K
C563 0.01
C523 0.1
C524 0.0047
C526 470P
C525 1000P
C527 0.033
C528 0.068
B501
C530 4.7/16
R555 68K
D531 DAN201
R544 27K
R1508 100K
Q525 2SC2063
C581 0.01
D550 IS2076
D510 IS2076
REC9V
9V
C531 1/50
D516 IS2076
R568 47K
C543 0.47/50
C545 0.47
C547 0.022
C544 0.047
R543 470
R566 22K
R567 1K
R569 6.8K
H1 STOP
VREF
SAMPLE HOLD
SAW WAVE GEN
FG FORMER
PULSE GEN
DELAY
ADD
COMP
FG AMP
R582 27
C548 33/10
R583 47K
R584 47K
R553 470K
C596 0.047
C568 0.01
C552 0.01
R581 33K
C546 0.01
C551 22/10
CFG (−)
CFG (+)
Q504 2SA844D
R1562 22K
Q502 2SC2063
R1560 47K
R1561 100K
R1563 100K
R1564 47K
R546 150K
R547 1.5K
C532 0.47/50
R548 100
C533 0.033
C534 0.068
R549 68K
IC503 HA11713
R556 1K
C535 0.068
R557 1K
R559 100
C538 33/10
R560 15K
C539 0.1
RT508 10KB
R558 15K
C567 0.01
CYLINDER FG
D514 DAN201
C537 22/10
R561 68K
C540 0.022
SW 25Hz
CYL FG(+)
SEARCH
CYL +B
REVERSE
CAPST +B
CTL PULSE
CYL FG (+)
SYNC
CAPST SERVO
TRACKING

X VOLTAGES ARE MEASURED IN PLAY MODE, AND


IC505 µPD4013BC
Q524 2SC2063
Q522 2SC2063
B502
Q516 2SC2063
D502 1S2076
D505 1S2076
CH-1 PHASE
CH-2 PHASE
IC502 HA11711
GATE
CAP PULSE
S.H
CAP TRAPE
FG AMP
P. PULSE AMP
N. PULSE AMP
CYL TRAPE
REF OSC
MM
1/6
RS F/F
32KHz OSC
CTL PB AMP
CTL REC AMP
V.SYNC SEP
REG
P.GEN
REC TIMING
B501
D531 DAN201
Q525 2SC2063
D511 1S2076
X501
D550 1S2076
Q513 2SC1213C
TP501
D510 1S2076
D516 1S2076
C531 1/50
IC504 HA11713
VREF
ADD
COMP
SAMPLE HOLD
SAW WAVE GEN
FG FORMER
PULSE GEN
DELAY
FG AMP
HI STOP
CFG(−)
CFG(+)
Q504 2SA844D
Q502 2SC2063
IC503 HA11713
SW 25Hz
D514 DAN201
CYLINDER FG
D515 DAN201
CYLINDER SPEED
D551 1S2076
IC522 NJD6506S
FORWARD SEARCH CAPSTAN SPEED
REVERSE SEARCH CAPSTAN SPEED
D508 DAN201
CAPSTAN SPEED
D501 1S2076
Q507 2SC2063
D506 1S2076
Q504 2SA673C
D503 DAN201
REVERSE SEARCH CYLINDER SPEED
FORWARD SEARCH CYLINDER SPEED
D504 1S2076
IC521 NJD6506S
BRAKE PULSE
HORIZONTAL FLUCTUATION
SLOW TRACING PRESET
IC520 NJD6506S
Q503 2SA673C
D521 1S2076
D513 DAN201
TP504
TP503
TRACKING PRESET
CYL FG(+)
SEARCH
CYL +B
REVERSE
CAPST +B
CTL PULSE
SYNC
CAPST SERVO
TRACKING
9V
REC9V
PG506
1
2 CYLINDER ON
3
4 CYLINDER LOCK
5 REC START
6 9V
7
8 GND
9 REC9V
To SYSTEM CONTROL PG916
PG516
1 CAPST SERVO
2 REVERSE P.
3 CAPSTAN +B
For ADJUSTMENT
PG509
1 REVERSE P.
2 H. STABILITY
3 CAPST SERVO
4 BRAKE PULSE
5 SLOW TRACKING
To SLOW PLAY /JACK PG616
PG507
1 SEARCH
2 REVERSE
3 GND
4 CYLINDER +B
5 CAPSTAN +B
To SYSTEM CONTROL PG918
PG508
1 SLOW/STILL
2 SW25Hz
3 GND
4 CYL FG (+)
5 SYNC
6 CTL PULSE
7 TRACKING
8 TRACKING
To SLOW PLAY JACK PG611
SERVO P.C.B

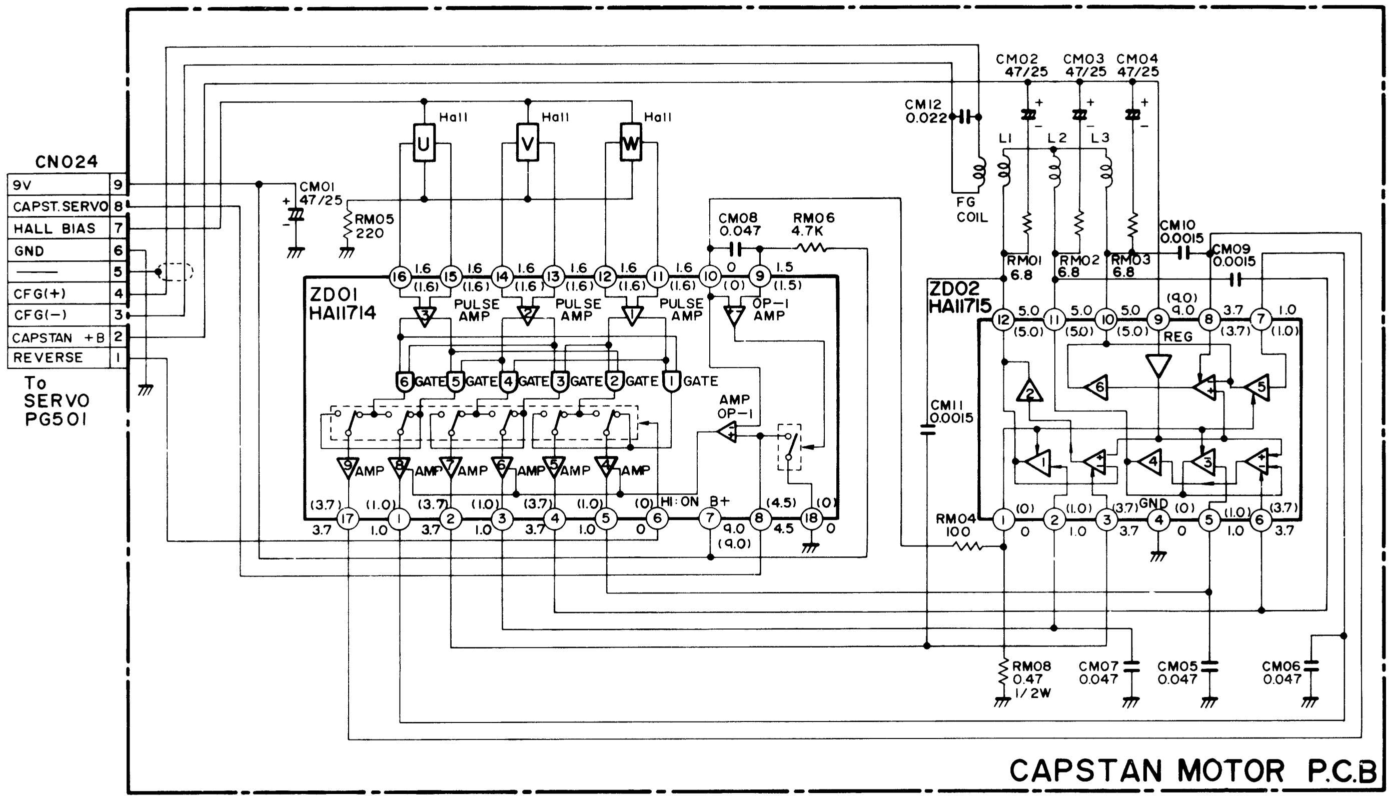
X VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

CYLINDER MOTOR DRIVER

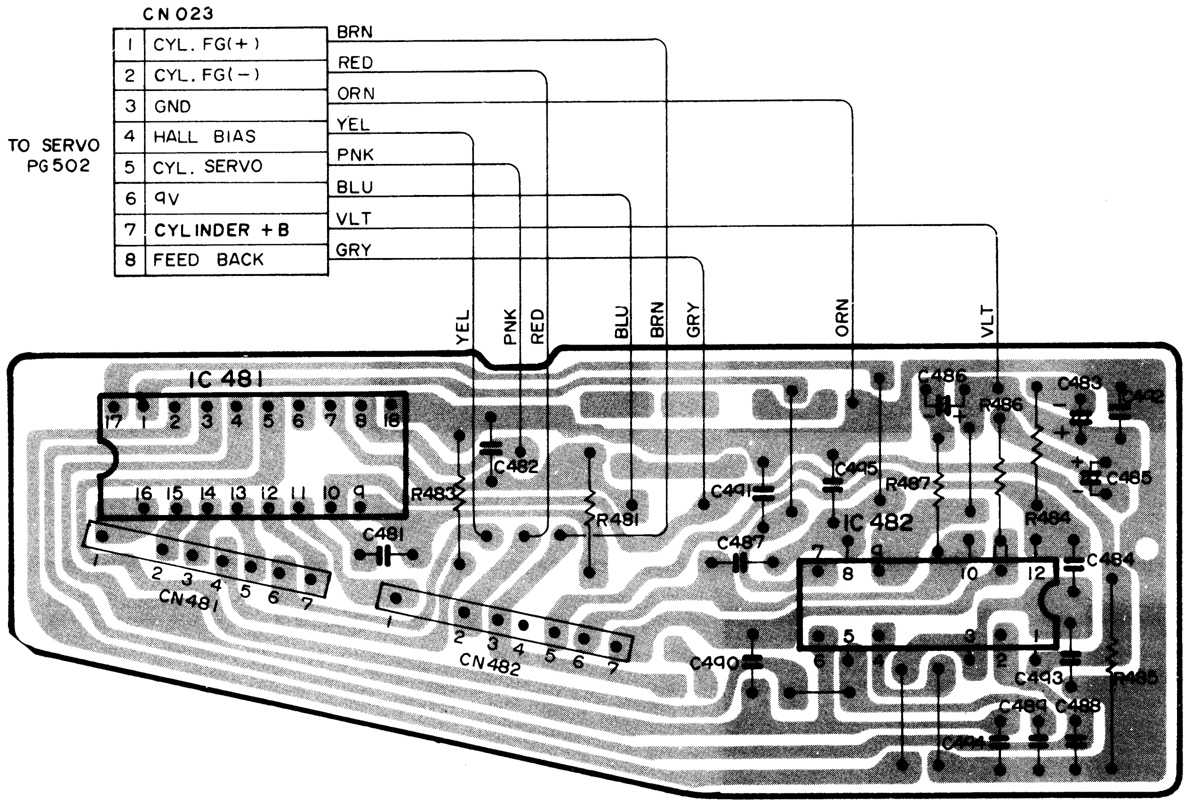

HE 481
HE 482
HE 483
FG COIL
MOTOR COIL
CYLINDER MOTOR
CN481
CN482
CN023
FEED BACK 8
CYLINDER +B 7
9V 6
CYL SERVO 5
HALL BIAS 4
GND 3
CYL FG(−) 2
CYL FG(+) 1
To SERVO PG502
R481 68K
C492 0.047
R483 100
IC481 HA11714
PULSE AMP
GATE
AMP
AMP OP-1
OP-1 AMP
C481 0.1
C483 2.2/16
R484 10
C485 2.2/16
R486 10
C486 2.2/16
R487 10
C487 0.0015
C490 0.0015
C495 0.047
IC482 HA11715
REG
B+
GND
C484 0.0015
R485 0.47
C493 0.047
C494 0.047
C482 0.047
C488 0.047
C489 0.047
C491 0.047
CYLINDER MOTOR DRIVER P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORDE MODE.

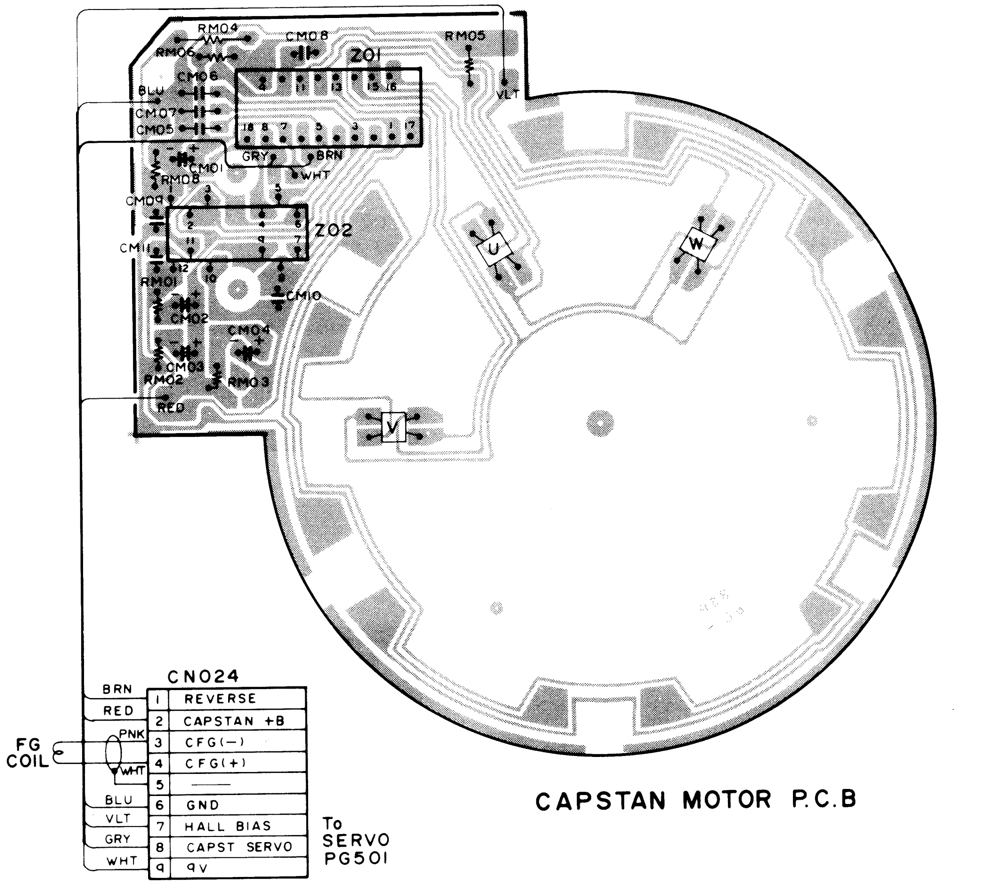
CAPSTAN MOTOR


CM02 47/25
CM03 47/25
CM04 47/25
CM12 0.022
Hall
U
V
W
L1
L2
L3
FG COIL
CN024
9V 9
CAPST.SERVO 8
HALL BIAS 7
GND 6
5
CFG(+) 4
CFG(−) 3
CAPSTAN +B 2
REVERSE 1
To SERVO PG501
CM01 47/25
RM05 220
CM08 0.047
RM06 4.7K
ZD01 HA11714
PULSE AMP
GATE
AMP
AMP OP-1
OP-1 AMP
HI ON B+
RM01 6.8
RM02 6.8
RM03 6.8
CM10 0.0015
CM09 0.0015
ZD02 HA11715
REG
CM11 0.0015
RM04 100
GND
RM08 0.47 1/2W
CM07 0.047
CM05 0.047
CM06 0.047
CAPSTAN MOTOR P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.


CN 023
1 CYL. FG(+) BRN
2 CYL. FG(−) RED
3 GND ORN
4 HALL BIAS YEL
5 CYL. SERVO PNK
6 9V BLU
7 CYLINDER +B VLT
8 FEED BACK GRY
TO SERVO PG502
YEL
PNK
RED
BLU
BRN
GRY
ORN
VLT
IC 481
R483
C482
R481
C481
CN481
CN482
C491
C495
R487
IC 482
C487
C490
C486
R486
C483
C492
C485
R484
C484
C493
C489
C488
R485
C494

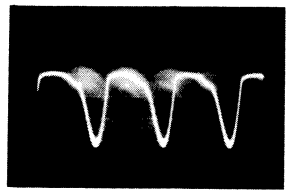
CYLINDER MOTOR DRIVER P.C.B


RM04
CM08
RM05
RM06
CM06
Z01
VLT
BLU
CM07
CM05
GRY
BRN
CM01
WHT
RM08
CM09
Z02
CM11
RM01
CM10
CM02
CM04
CM03
RM02
RM03
RED
U
W
V
CN024
BRN 1 REVERSE
RED 2 CAPSTAN +B
PNK 3 CFG(−)
WHT 4 CFG(+)
5 ———
BLU 6 GND
VLT 7 HALL BIAS
GRY 8 CAPST SERVO
WHT 9 9V
FG COIL
To SERVO PG501

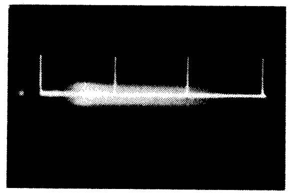
CAPSTAN MOTOR P.C.B

SERVO WAVEFORMS

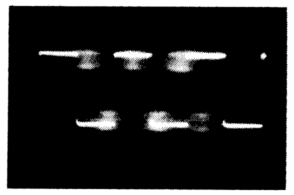
IC502 ① REC
0.2V/32kHz



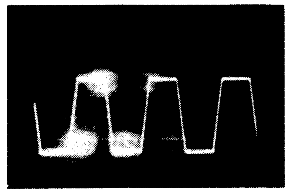
IC502 ⑩ REC
2V/T=40msec



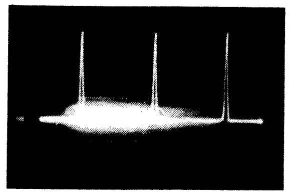
IC502 ⑯ REC
2V/T=40msec



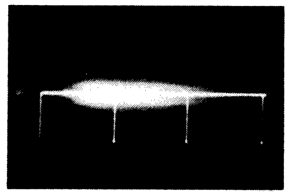
IC502 ㉔ PB
2V/T=40msec



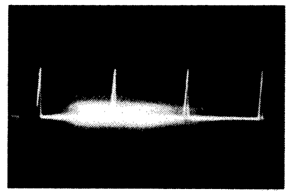
IC502 ② PB
0.5V/T=40msec



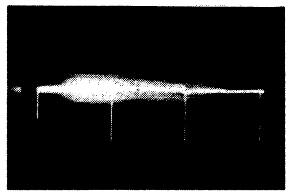
IC502 ⑪ REC
2V/T=40msec



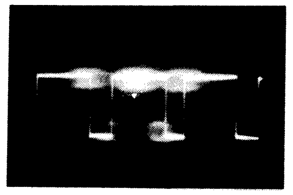
IC502 ⑰ REC
2V/T=40msec



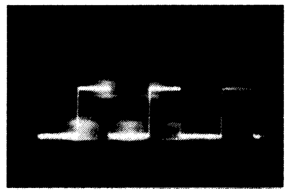
IC502 ㉕ REC
0.2V/T=47.6msec



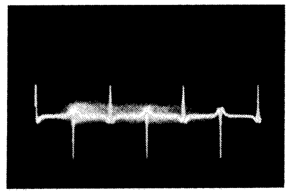
IC502 ④ REC
2V/T=40msec



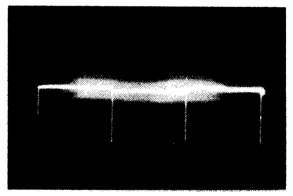
IC502 ⑪ PB
2V/T=40msec



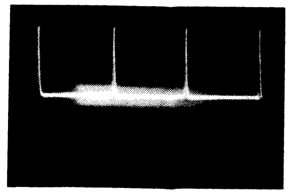
IC502 ⑲ REC
0.5V/T=40msec



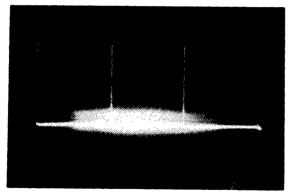
IC502 ㉖ REC
0.2V/T=47.6msec



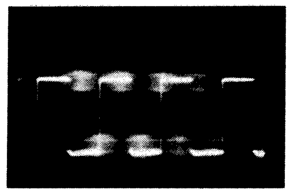
IC502 ⑧ REC
0.2V/T=40msec



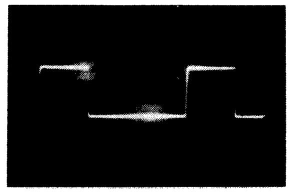
IC502 ⑫ REC
0.2V/T=40msec



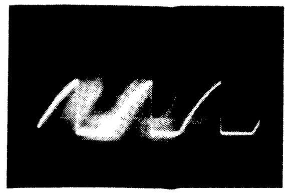
IC502 ㉒ REC
0.5V/126Hz



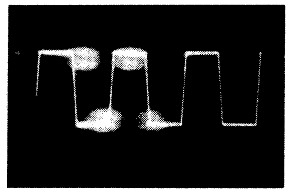
IC502 ㉗ REC
2V/T=40msec



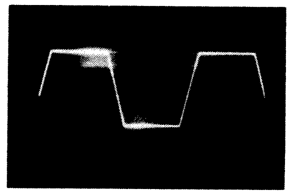
IC502 ⑩ PB
2V/T=40msec



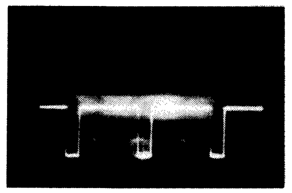
IC502 ⑭ REC
2V/T=40msec



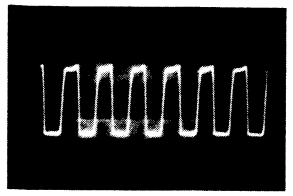
IC502 ㉔ REC
2V/T=47.6msec



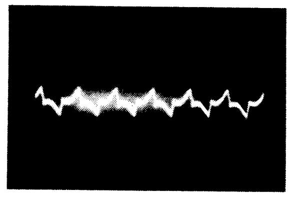
IC502 ㉗ PB
2V/T=40msec



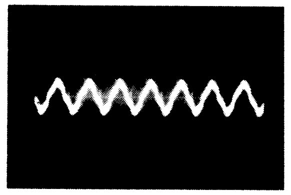
IC502 ㉘ REC
0.2V/32kHz



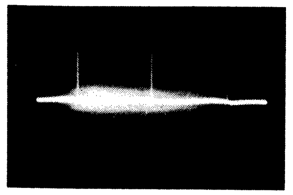
IC503 ⑦ PB/REC
50mV/5ms.div.



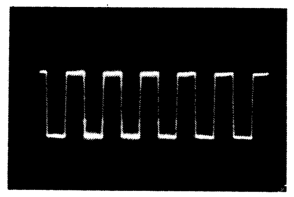
IC504 ⑥ PB/REC
50mV/1ms.div.



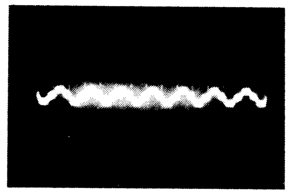
IC503 ① PB/REC
50mV/10ms.div.



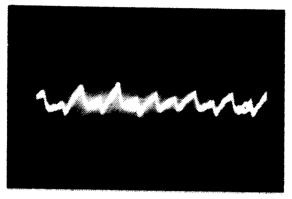
IC503 ⑧ PB/REC
50mV/100Hz



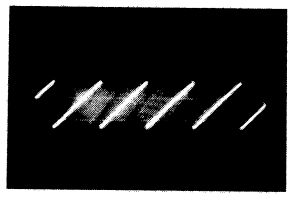
IC504 ⑦ PB/REC
50mV/1ms.div.



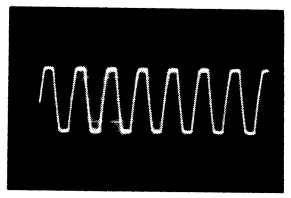
IC503 ③ PB/REC
50mV/5ms.div.



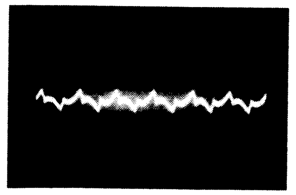
IC503 ⑪ PB/REC
2V/100Hz



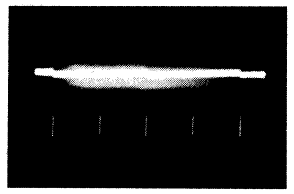
IC504 ⑧ PB/REC
0.5V/252Hz



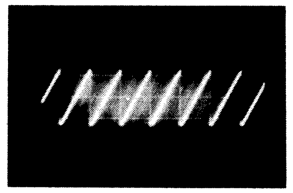
IC503 ⑤ PB/REC
50mV/5ms.div.



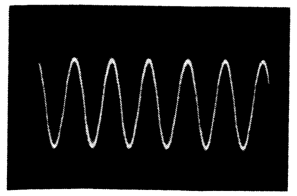
IC503 ⑫ PB/REC
50mV/10msec



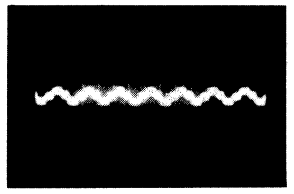
IC504 ⑪ PB/REC
2V/252Hz

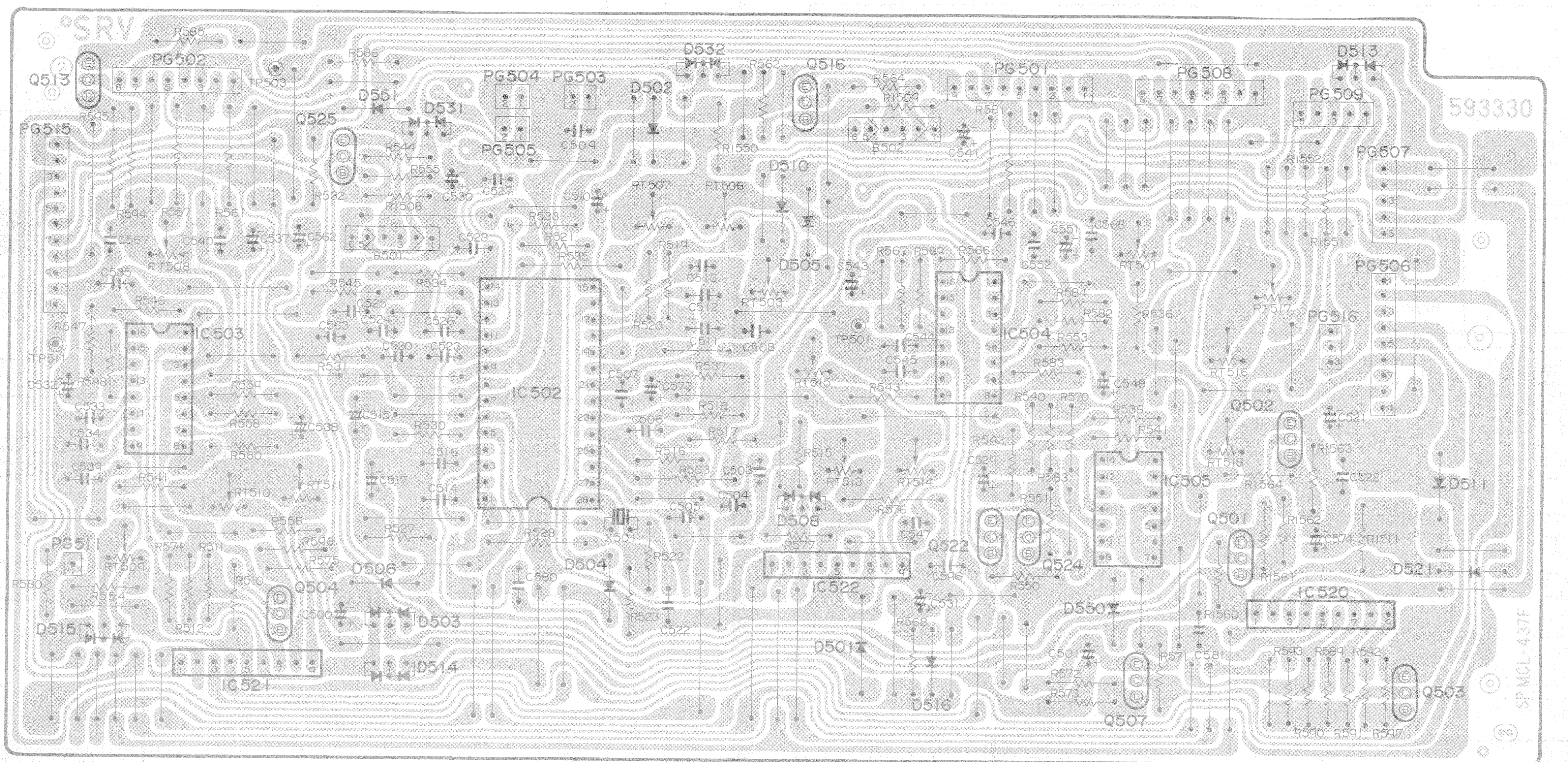


IC503 ⑥ PB/REC
100mV/100Hz



IC504 ⑤ PB/REC
50mV/1ms.div.




SRV
593330
SP MCL-437F
IC502
IC503
IC504
IC505
IC520
IC521
IC522
Q501
Q502
Q503
Q504
Q507
Q513
Q516
Q522
Q524
Q525
PG501
PG502
PG503
PG504
PG505
PG506
PG507
PG508
PG509
PG511
PG515
PG516
D501
D502
D503
D504
D505
D506
D508
D510
D511
D513
D514
D515
D516
D521
D531
D532
D550
D551
TP501
TP503
TP511
X501
B501
B502
RT501
RT503
RT506
RT507
RT508
RT509
RT510
RT511
RT513
RT514
RT515
RT516
RT517
RT518

SERVO P.C.B

RT501	TRACKING PRESET
RT503	REC TIMING
RT506	CH-1 PHASE
RT507	CH-2 PHASE
RT508	CYLINDER FG

RT509	CYLINDER SPEED
RT510	FORWARD SEARCH CYLINDER SPEED
RT511	REVERSE SEARCH CYLINDER SPEED
RT513	CAPSTAN SPEED

RT514	FORWARD SEARCH CAPSTAN SPEED
RT515	REVERSE SEARCH CAPSTAN SPEED
RT516	SLOW TRACKING PRESET
RT517	BRAKE PULSE
RT518	HORIZONTAL FLUCTUATION

PG501

1	REVERSE
2	CAPSTAN +B
3	CFG (−)
4	CFG (+)
5	—
6	GND
7	HALL BIAS
8	CAPST SERVO
9	9V

To
CAPSTAN
MOTOR
CN 024

PG502

1	CYL FG (+)
2	CYL FG (−)
3	GND
4	HALL BIAS
5	CYL SERVO
6	9V
7	CYLINDER +B
8	—

To
CYLINDER
MOTOR
DRIVER
CN 023

PG503

1	CYL TACH P.
2	GND

To
CYLINDER
TACH PULSE
HEAD
CN022

PG505

1	CTL PULSE
2	GND

To
SLOW PLAY
/JACK
PG606

PG504

1	CTL PULSE
2	GND

To
AUDIO
CONTROL
HEAD
CN021

PG516

1	CAPST SERVO
2	REVERSE P.
3	CAPSTAN +B

For
ADJUSTMENT

PG506

1	—
2	CYLINDER ON
3	—
4	CYLINDER LOCK
5	REC START
6	9V
7	—
8	GND
9	REC 9V

To
SYSTEM
CONTROL
PG916

PG507

1	SEARCH
2	REVERSE
3	GND
4	CYLINDER +B
5	CAPSTAN +B

To
SYSTEM
CONTROL
PG918

PG511

1	PB LUMINANCE

To
Y / CHROMA
TP202

PG508

1	SLOW/STILL
2	SW 25Hz
3	GND
4	CYL FG (+)
5	SYNC
6	CTL PULSE
7	TRACKING
8	TRACKING

To
SLOW PLAY /
JACK
PG611

PG509

1	REVERSE P.
2	H. STABILITY
3	CAPST SERVO
4	BRAKE PULSE
5	SLOW TRACKING

To
SLOW PLAY
/JACK
PG616

PG515

1	FREE RUN
2	9V
3	CYL FG (+)
4	CTL PULSE
5	CAPST SPEED
6	CYL SERVO
7	CYL SPEED
8	SW 25Hz
9	CFG (+)
10	GND
11	PB LUMINANCE

For
ADJUSTMENT

Q 503

B	9.3 (9.3)
C	0 (0)
E	9.4 (9.4)

Q504

B	9.0 (8.9)
C	5.0 (4.8)
E	9.4 (9.4)

Q 507

B	0.6 (0.6)
C	0 (0)
E	0 (0)

Q513

B	2.8 (2.8)
C	9.4 (9.3)
E	2.2 (2.2)

Q516

B	0 (0)
C	4.5 (4.8)
E	4.7 (4.7)

Q522

B	0.4 (0.4)
C	4.1 (4.0)
E	0 (−)

Q 524

B	0.3 (0.3)
C	4.3 (4.3)
E	0 (0)

Q 525

B	0 (0)
C	5.1 (5.0)
E	4.7 (4.7)

B 501

6	5	4	3	2	1
9.4 (9.4)	5.0 (5.5)	4.7 (4.7)	4.7 (4.7)	5.0 (5.5)	0 (0)

Q502

B	0 (0)
C	4.7 (4.7)
E	0 (0)

IC 502

14	5.5 (5.5)	15	1.9 (1.9)
13	4.5 (2.0)	16	4.0 (4.0)
12	5.1 (7.0)	17	0.3 (0.3)
11	2.8 (5.6)	18	0.3 (0.3)
10	1.7 (1.1)	19	4.3 (4.3)
9	9.4 (9.4)	20	4.7 (8.7)
8	0.2 (0.3)	21	0 (0)
7	0 (0)	22	3.1 (2.5)
6	0.2 (0.2)	23	4.7 (4.7)
5	6.2 (6.2)	24	5.5 (5.6)
4	3.1 (1.7)	25	4.5 (4.8)
3	3.1 (0.2)	26	4.3 (02)
2	3.1 (0.2)	27	1.2 (2.7)
1	0.5 (0.4)	28	0.2 0.2

B502

6	5	4	3	2	1
9.4 (9.4)	4.8 (4.8)	4.7 (4.7)	4.7 (4.7)	4.8 (4.8)	0 (0)

Q504

B	4.7 (4.7)
C	4.6 (4.5)
E	4.8 (4.8)

IC503

16	4.7 (4.7)	1	5.1 (4.5)
15	0 (0)	2	0 (0)
14	4.7 (4.7)	3	4.6 (4.5)
13	4.7 (4.7)	4	9.4 (9.4)
12	2.9 (2.7)	5	3.0 (3.0)
11	2.7 (2.7)	6	3.0 (3.0)
10	0 (0)	7	3.0 (3.0)
9	6.4 (6.3)	8	3.0 (3.0)

IC 504

16	4.7 (4.7)	1	5.9 (4.8)
15	0 (0)	2	0 (0)
14	4.7 (4.7)	3	5.0 (4.9)
13	4.9 (4.8)	4	9.4 (9.4)
12	3.1 (3.1)	5	3.1 (3.0)
11	2.6 (3.1)	6	3.0 (3.0)
10	0 (0)	7	3.1 (3.0)
9	6.2 (6.2)	8	3.1 (3.0)

IC 520

1	2	3	4	5	6	7	8	9
9.3 (9.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

IC505

14	9.4 (9.4)	1	4.7 (4.6)
13	4.9 (4.8)	2	4.7 (4.6)
12	4.5 (4.5)	3	4.9 (4.8)
11	9.4 (9.4)	4	0 (0)
10	4.3 (4.3)	5	4.7 (4.7)
9	9.4 (9.4)	6	0 (0)
8	4.0 (4.0)	7	0 (0)

IC521

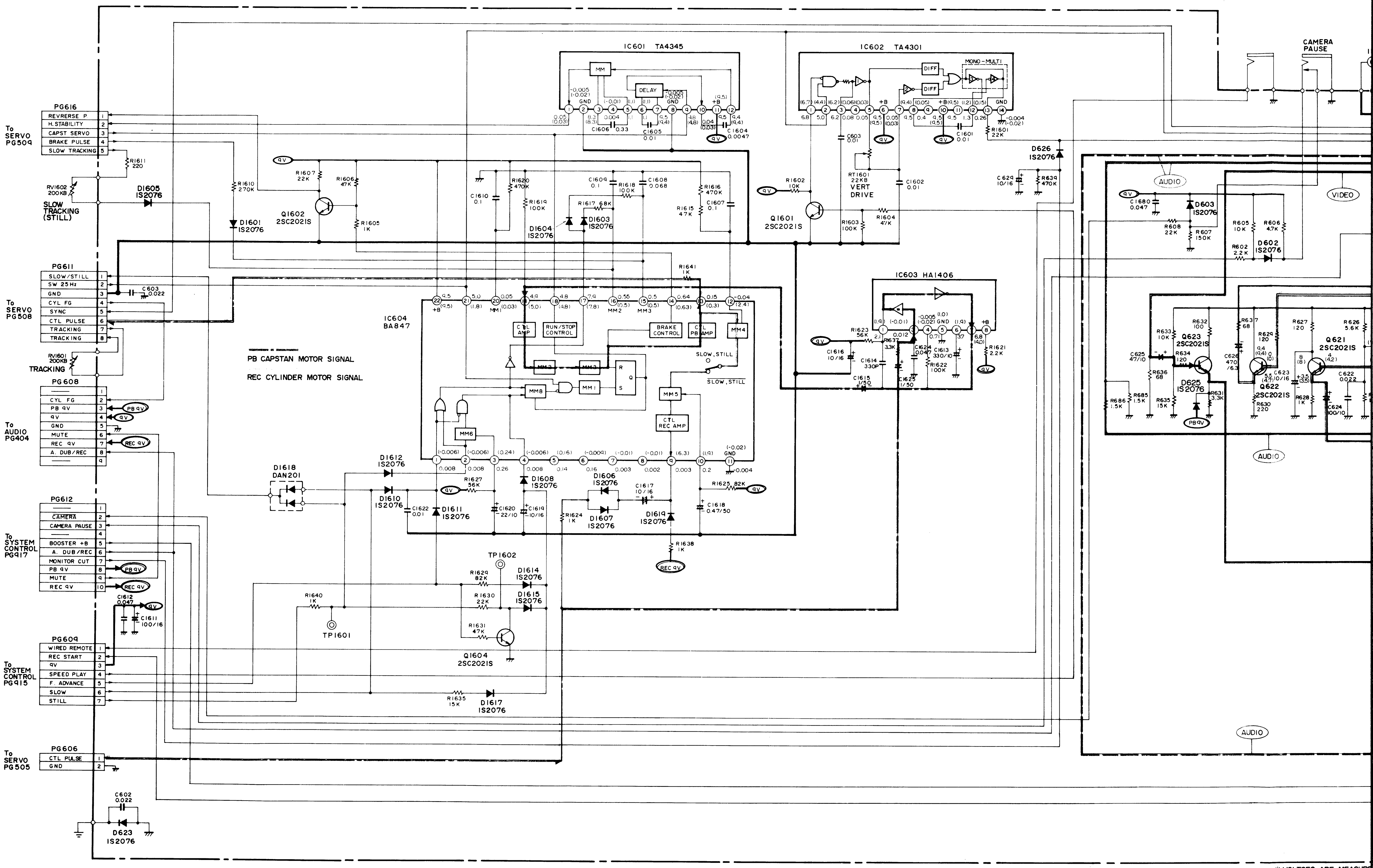
1	2	3	4	5	6	7	8	9
0 (0)	0 (0)	4.0 (4.0)	9.7 (9.7)	0 (0)	0 (0)	4.5 (4.5)	2.3 (2.3)	2.3 (2.3)

IC522

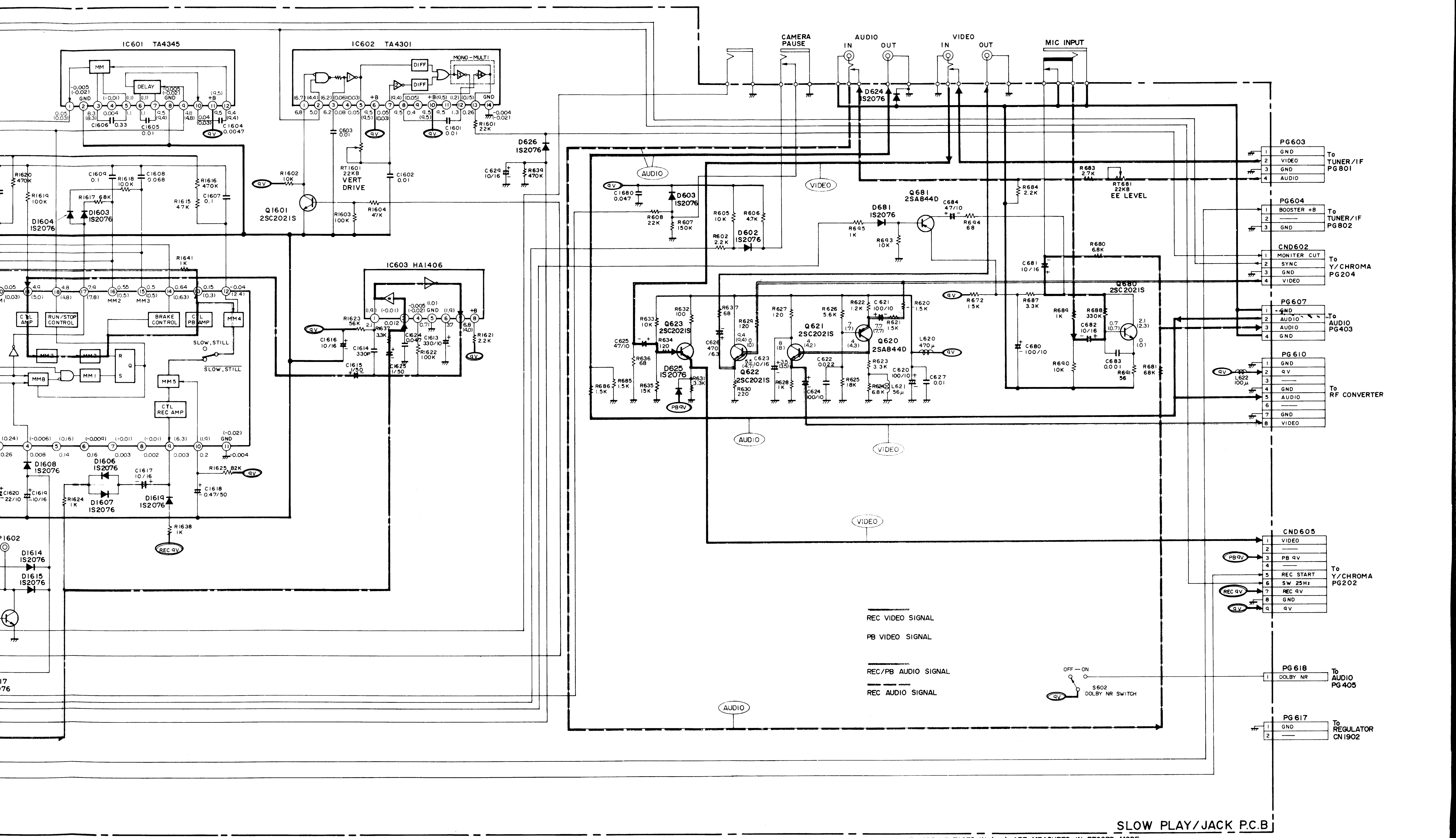
1	2	3	4	5	6	7	8	9
0 (0)	0 (0)	0 (0)	6.4 (6.4)	0 (0)	0 (0)	6.4 (6.4)	6.1 (6.1)	6.1 (6.1)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND
VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

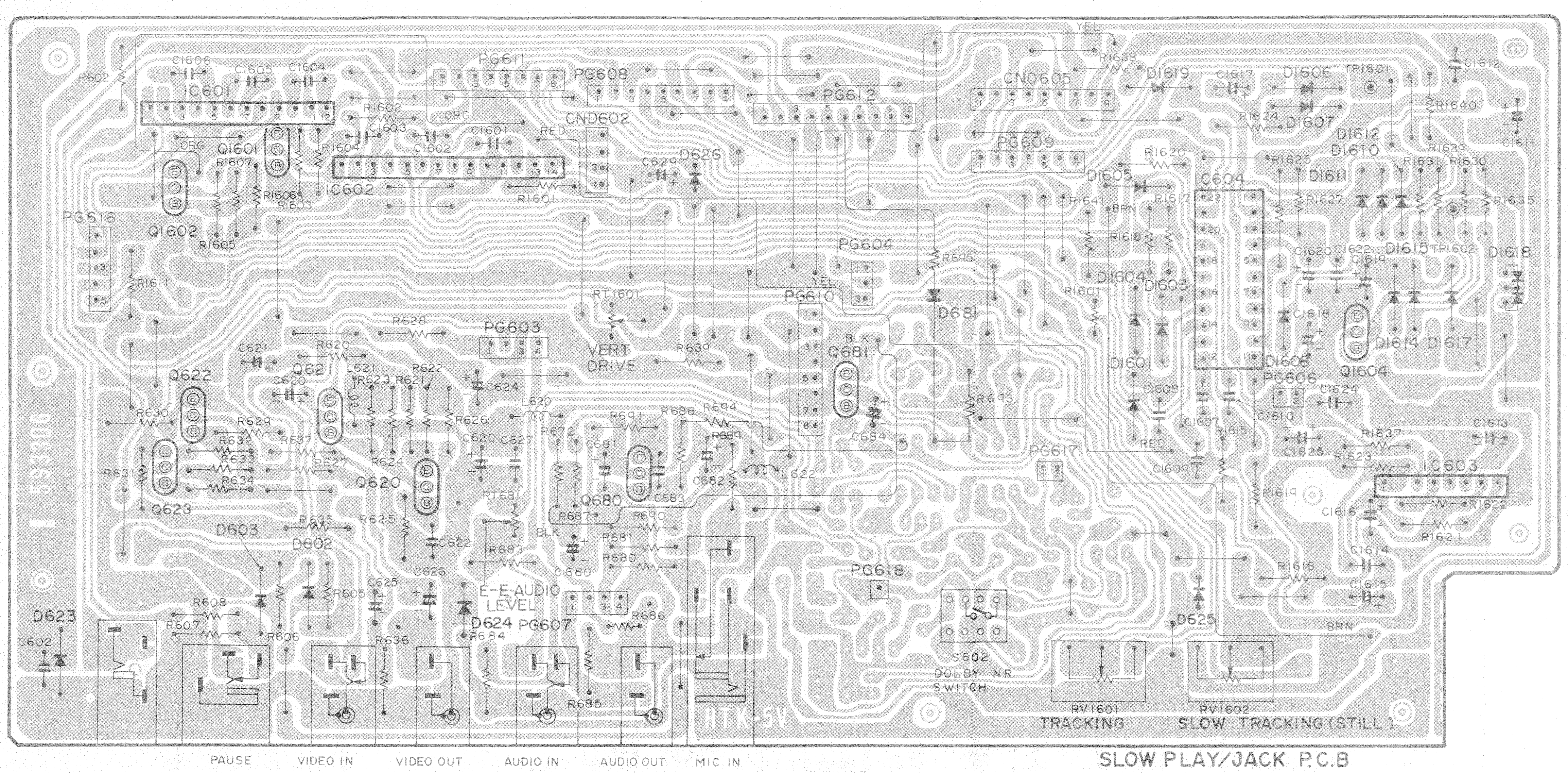
SLOW PLAY/JACK (For UK model)


IC601 TA4345
MM
DELAY
GND
C1606 0.33
C1605 0.01
C1604 0.0047
IC602 TA4301
DIFF
MONO-MULTI
C603 0.01
C1601 0.01
R1601 22K
RT1601 22KB VERT DRIVE
C1602 0.01
R1602 10K
Q1601 2SC2021S
R1603 100K
R1604 47K
CAMERA PAUSE
D626 1S2076
C629 10/16
R639 470K
PG616
REVRERSE P
H. STABILITY
CAPST SERVO
BRAKE PULSE
SLOW TRACKING
To SERVO PG509
R1611 220
RV1602 200KB
SLOW TRACKING (STILL)
D1605 1S2076
R1610 270K
D1601 1S2076
R1607 22K
R1606 47K
Q1602 2SC2021S
R1605 1K
C1610 0.1
R1620 470K
R1619 100K
C1609 0.1
R1618 100K
C1608 0.068
R1617 68K
D1604 1S2076
D1603 1S2076
R1616 470K
R1615 47K
C1607 0.1
R1641 1K
PG611
SLOW/STILL
SW 25Hz
GND
CYL FG
SYNC
CTL PULSE
TRACKING
TRACKING
To SERVO PG508
C603 0.022
RV1601 200KB
TRACKING
IC604 BA847
CTL AMP
RUN/STOP CONTROL
BRAKE CONTROL
CTL PB AMP
MM4
MM2
MM3
MM1
MM8
MM6
MM5
CTL REC AMP
SLOW, STILL
PB CAPSTAN MOTOR SIGNAL
REC CYLINDER MOTOR SIGNAL
IC603 HA1406
R1623 56K
R1637 3.3K
C1616 10/16
C1614 330P
C1615 1/50
C1625 1/50
C1624 0.047
C1613 330/10
R1622 100K
R1621 2.2K
PG608
CYL FG
PB 9V
9V
GND
MUTE
REC 9V
A. DUB/REC
To AUDIO PG404
D1618 DAN201
D1612 1S2076
D1610 1S2076
C1622 0.01
D1611 1S2076
R1627 56K
C1620 22/10
C1619 10/16
D1608 1S2076
D1606 1S2076
D1607 1S2076
C1617 10/16
R1624 1K
D1619 1S2076
C1618 0.47/50
R1625 82K
R1638 1K
PG612
CAMERA
CAMERA PAUSE
BOOSTER +8
A. DUB/REC
MONITOR CUT
PB 9V
MUTE
REC 9V
To SYSTEM CONTROL PG917
TP1602
R1629 82K
D1614 1S2076
R1630 22K
D1615 1S2076
R1640 1K
TP1601
R1631 47K
Q1604 2SC2021S
C1612 0.047
C1611 100/16
PG609
WIRED REMOTE
REC START
9V
SPEED PLAY
F. ADVANCE
SLOW
STILL
To SYSTEM CONTROL PG915
R1635 15K
D1617 1S2076
PG606
CTL PULSE
GND
To SERVO PG505
C602 0.022
D623 1S2076
AUDIO
VIDEO
C1680 0.047
D603 1S2076
R608 22K
R607 150K
R605 10K
R606 4.7K
R602 2.2K
D602 1S2076
R633 10K
R632 100
Q623 2SC2021S
R637 68
R624 120
R627 120
R626 5.6K
Q621 2SC2021S
C625 47/10
R634 120
R636 68
D625 1S2076
R631 3.3K
C626 470/6.3
Q622 2SC2021S
C623 10/16
R630 220
R628 1K
C624 100/10
C622 0.022
R686 1.5K
R685 1.5K
R635 15K
PB9V

※ VOLTGES ARE MEASURE
※ THERE ARE 3 GND


IC601 TA4345
MM
DELAY
IC602 TA4301
DIFF
MONO-MULTI
VERT DRIVE
RT1601 22KB
Q1601 2SC2021S
D1603 1S2076
D1604 1S2076
IC603 HA1406
CTL AMP
RUN/STOP CONTROL
BRAKE CONTROL
CTL PB AMP
MM4
MM3
MM2
MM1
MM5
MM8
CTL REC AMP
SLOW, STILL
D1606 1S2076
D1607 1S2076
D1608 1S2076
D1619 1S2076
D1614 1S2076
D1615 1S2076
REC 9V
PB 9V
9V
CAMERA PAUSE
AUDIO IN OUT
VIDEO IN OUT
MIC INPUT
D624 1S2076
D626 1S2076
D603 1S2076
D602 1S2076
D681 1S2076
D625 1S2076
Q681 2SA844D
Q680 2SC2021S
Q623 2SC2021S
Q622 2SC2021S
Q621 2SC2021S
Q620 2SA844D
RT681 22KB EE LEVEL
L620 470μ
L621 56μ
L622 100μ
AUDIO
VIDEO
PG603: 1 GND, 2 VIDEO, 3 GND, 4 AUDIO — To TUNER/IF PG801
PG604: 1 BOOSTER +B, 2 —, 3 GND — To TUNER/IF PG802
CND602: 1 MONITER CUT, 2 SYNC, 3 GND, 4 VIDEO — To Y/CHROMA PG204
PG607: 1 GND, 2 AUDIO, 3 AUDIO, 4 GND — To AUDIO PG403
PG610: 1 GND, 2 9V, 3 —, 4 GND, 5 AUDIO, 6 —, 7 GND, 8 VIDEO — To RF CONVERTER
CND605: 1 VIDEO, 2 —, 3 PB 9V, 4 —, 5 REC START, 6 SW 25Hz, 7 REC 9V, 8 GND, 9 9V — To Y/CHROMA PG202
PG618: 1 DOLBY NR — To AUDIO PG405
PG617: 1 GND, 2 — — To REGULATOR CN1902
REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC/PB AUDIO SIGNAL
REC AUDIO SIGNAL
OFF — ON
S602 DOLBY NR SWITCH
SLOW PLAY/JACK P.C.B

※ VOLTGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.
※ THERE ARE 3 GND LINE SYSTEMS ON THIS CIRCUIT BOARD.


IC601
IC602
IC603
IC604
Q1601
Q1602
Q1604
Q620
Q621
Q622
Q623
Q680
Q681
PG603
PG604
PG606
PG607
PG608
PG609
PG610
PG611
PG612
PG616
PG617
PG618
CND602
CND605
D603
D602
D623
D624
D625
D626
D681
D1601
D1603
D1604
D1605
D1606
D1607
D1608
D1610
D1611
D1612
D1614
D1615
D1617
D1618
D1619
RT1601
RT681
VERT DRIVE
E-E AUDIO LEVEL
L620
L621
L622
TP1601
TP1602
YEL
ORG
RED
BLK
BRN
S602
DOLBY NR SWITCH
RV1601
TRACKING
RV1602
SLOW TRACKING (STILL)
HTK-5V
I 593306
PAUSE
VIDEO IN
VIDEO OUT
AUDIO IN
AUDIO OUT
MIC IN

SLOW PLAY/JACK P.C.B

PG608

1	——
2	CYL FG
3	PB 9V
4	9V
5	GND
6	MUTE
7	REC 9V
8	A. DUB/REC
9	——

To AUDIO PG404

PG609

1	WIRED REMOTE
2	REC START
3	9V
4	SPEED PLAY
5	F. ADVANCE
6	SLOW
7	STILL

To SYSTEM CONTROL PG915

PG610

1	GND
2	9V
3	——
4	GND
5	AUDIO
6	——
7	GND
8	VIDEO

To RF CONVERTER

PG611

1	SLOW/STILL
2	SW 25Hz
3	GND
4	CYL FG
5	SYNC
6	CTL PULSE
7	TRACKING
8	TRACKING

To SERVO PG508

PG612

1	——
2	CAMERA
3	CAMERA PAUSE
4	——
5	BOOSTER +B
6	A. DUB/REC
7	MONITOR CUT
8	PB 9V
9	MUTE
10	REC 9V

To SYSTEM CONTROL PG917

CND605

1	VIDEO
2	——
3	PB 9V
4	——
5	REC START
6	SW 25Hz
7	REC 9V
8	GND
9	9V

To Y/CHROMA PG202

PG618

1	DOLBY NR

To AUDIO PG405

PG606

1	CTL PULSE
2	GND

To SERVO PG505

PG603

1	GND
2	VIDEO
3	GND
4	AUDIO

To TUNER/IF PG801

PG604

1	BOOSTER +B
2	——
3	GND

To TUNER/IF PG802

PG607

1	GND
2	AUDIO
3	AUDIO
4	GND

To AUDIO PG403

PG617

1	GND
2	——

To REGULATOR CN1902

PG616

1	REVERSE P.
2	H. STABILITY
3	CAPST SERVO
4	BRAKE PULSE
5	SLOW TRACKING

To SERVO PG509

CND602

1	MONITOR CUT
2	SYNC
3	GND
4	VIDEO

To Y/CHROMA PG204

IC601

1	2	3	4	5	6	7	8	9	10	11	12
0.05(0.03)	-0.005(-0.02)	8.3(8.3)	0.004(-0.00	1.1(1.1)	1.1(1.1)	9.5(9.4)	-0.005(-0.02)	4.8 4.8	0.04(0.03)	9.5(9.5)	9.4(9.4)

IC602

1	2	3	4	5	6	7	8	9	10	11	12	13	14
6.8(6.7)	5.0(4.4)	6.2(6.2)	0.08(0.06)	0.05(0.03)	9.5(9.5)	0.05(0.03)	9.5(9.4)	0.4(0.05)	9.5(9.5)	9.5(9.5)	1.3(1.2)	0.26(0.15)	-0.004(-0.02)

IC603

1	3	4	5	6	7	8
2.1(1.9)	0,62(0.5)	0.012(-0.01)	-0.005(-0.02)	0.71(1.0)	3.7(1.9)	6.8(4.0)

IC604

22	9.5(9.5)	1	0.008(-0.006)
21	5.0(1.8)	2	0.008(-0.006)
20	0.05(0.03)	3	0.26(0.24)
19	4.9(5.0)	4	0.008(-0.006)
18	4.8(4.8)	5	0.14(0.16)
17	7.9(7.8)	6	0.16(-0.009)
16	0.55(0.5)	7	0.003(-0.01)
15	0.5(0.5)	8	0.02(-0.01)
14	0.64(0.63)	9	0.003(6.3)
13	0.15(0.3)	10	0.2(1.9)
12	-0.04(2.4)	11	-0.004(-0.02)

Q620

B	7.0(7.0)
C	4.0(4.3)
E	7.7(7.7)

Q621

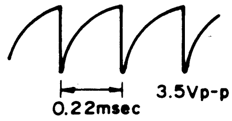
B	4.0(4.2)
C	8.0(8.0)
E	3.5(3.5)

Q622

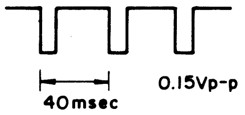
B	0(0)
C	9.4(9.4)
E	5.5(4.7)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

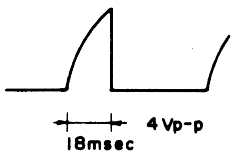
IC604-4 SLOW



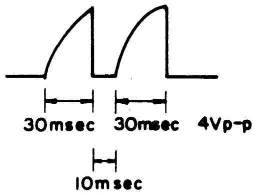
IC604-13 PB



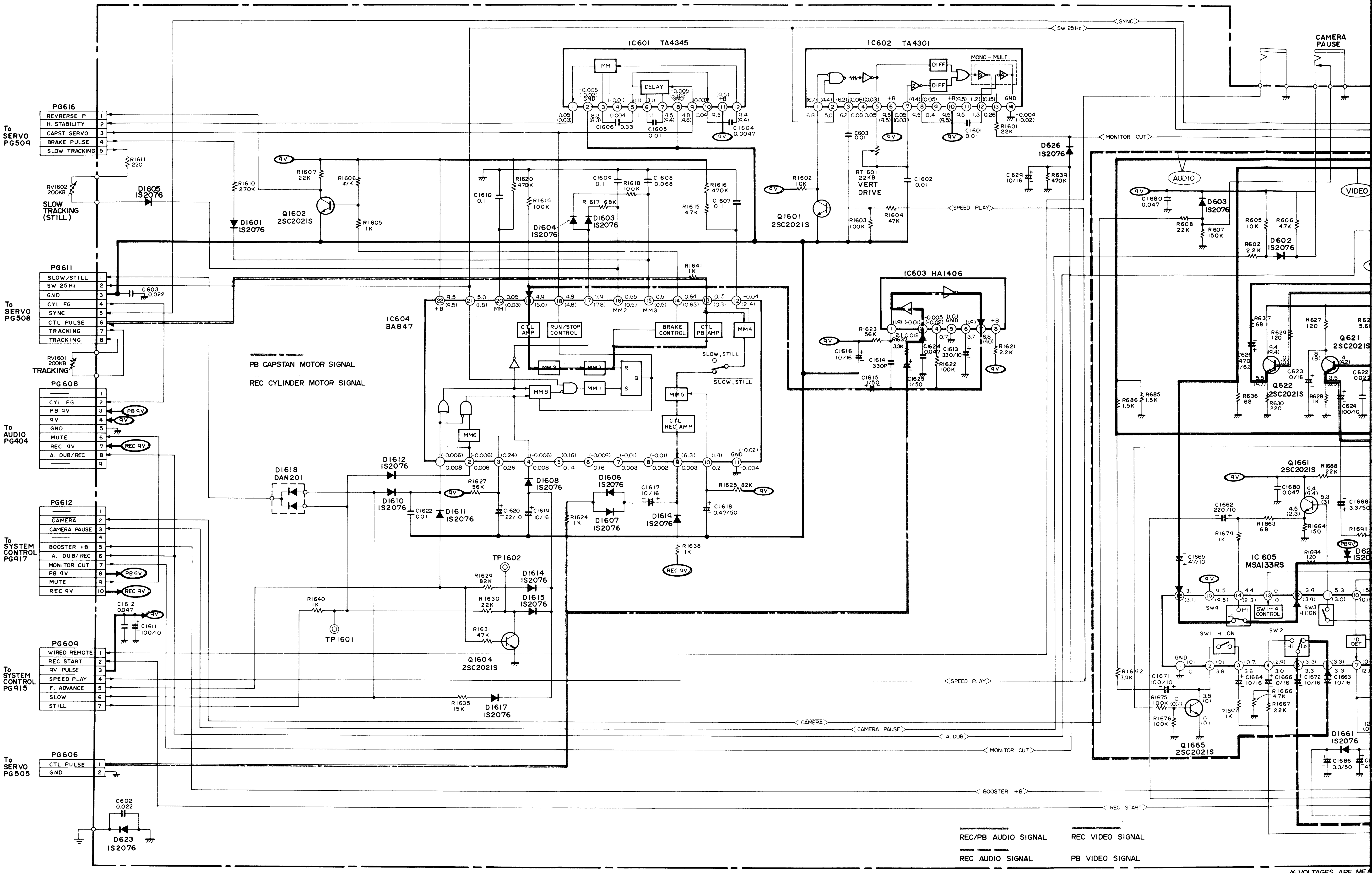
IC604-15 SLOW



IC604-20

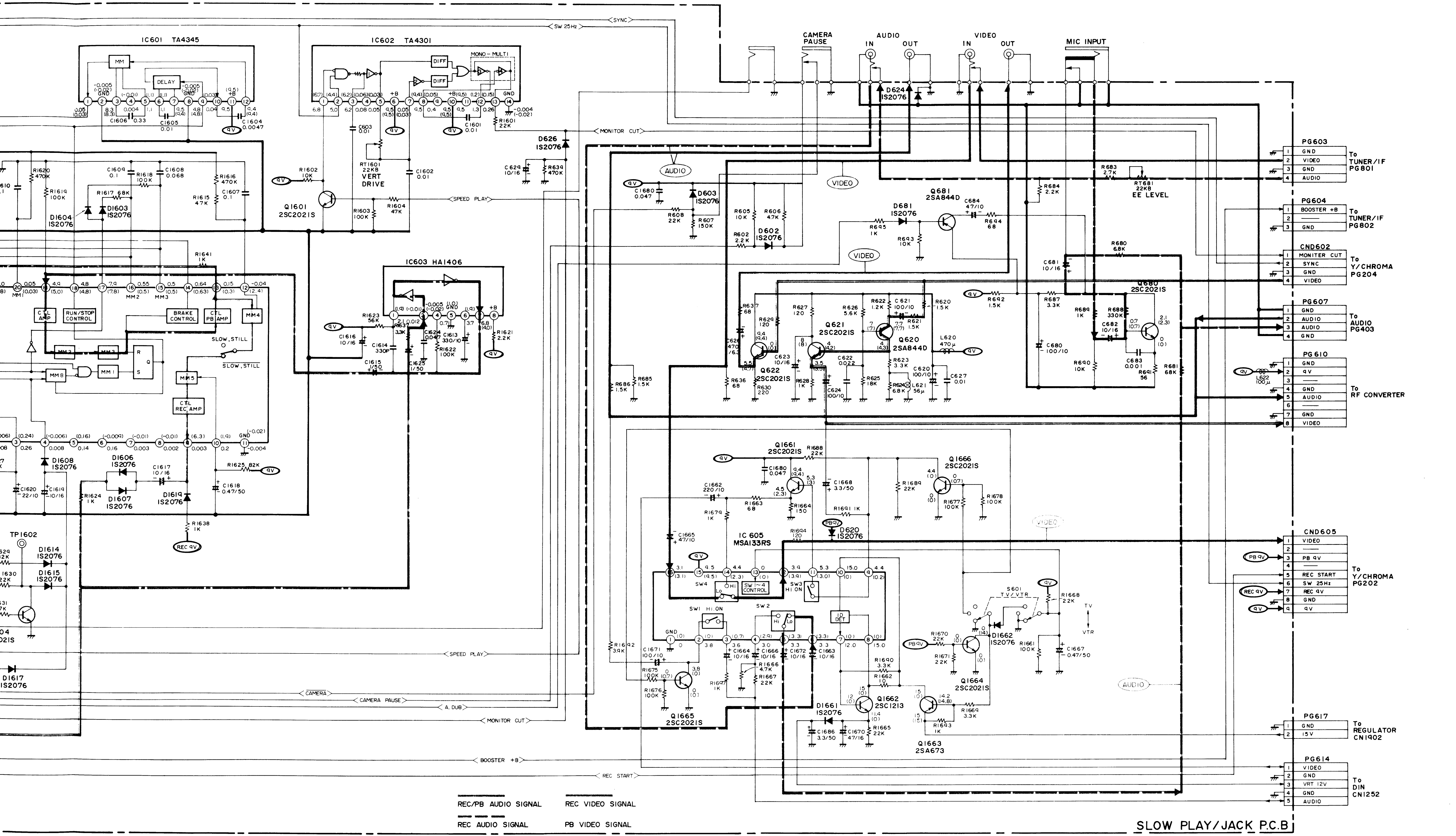


SLOW PLAY/JACK (Except for UK model)

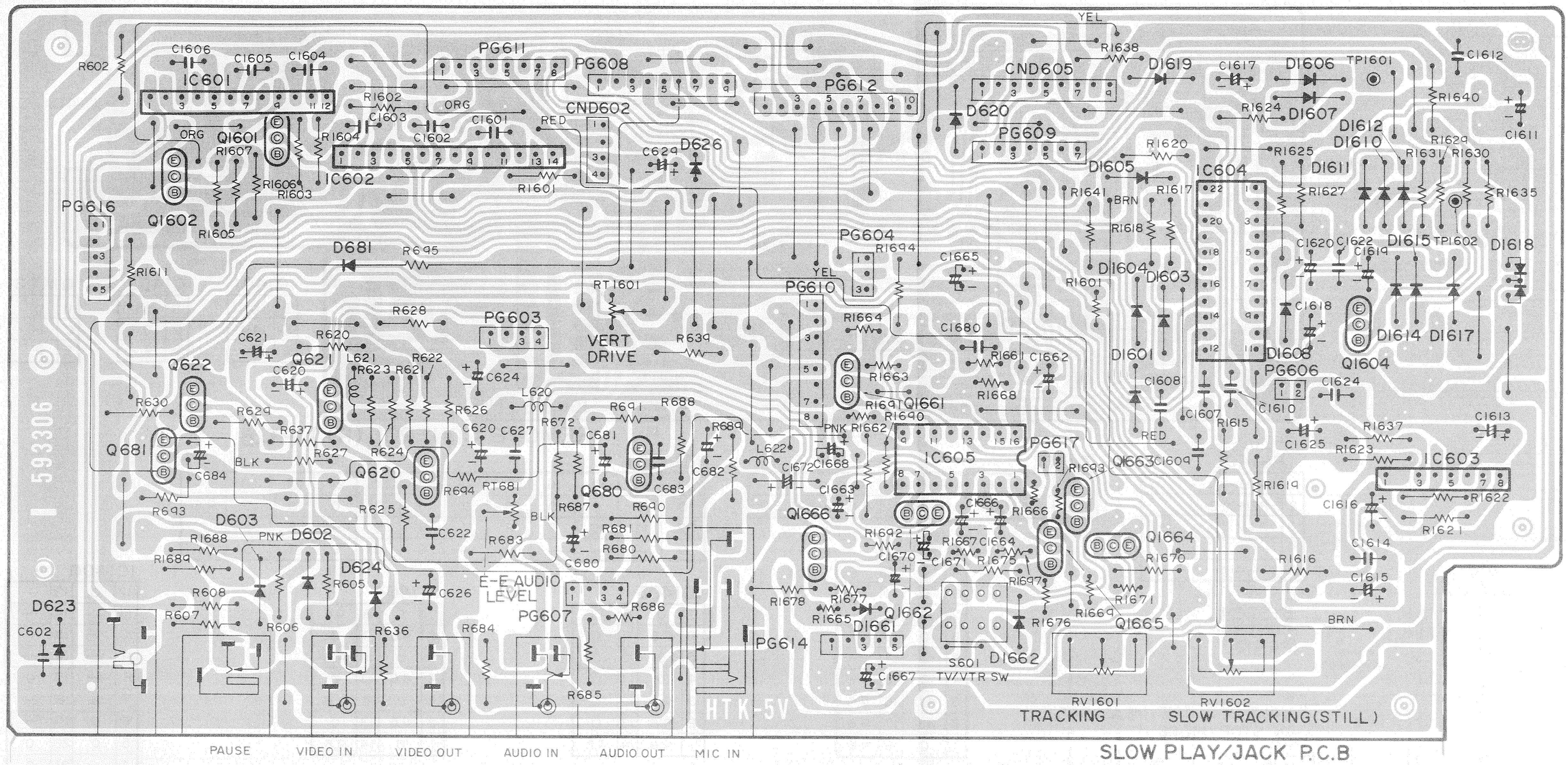


To SERVO PG509
PG616
REVREVERSE P.
H. STABILITY
CAPST SERVO
BRAKE PULSE
SLOW TRACKING
RV1602 200KB
SLOW TRACKING (STILL)
To SERVO PG508
PG611
SLOW/STILL
SW 25Hz
GND
CYL FG
SYNC
CTL PULSE
TRACKING
TRACKING
RV1601 200KB
TRACKING
To AUDIO PG404
PG608
CYL FG
PB 9V
9V
GND
MUTE
REC 9V
A. DUB/REC
To SYSTEM CONTROL PG917
PG612
CAMERA
CAMERA PAUSE
BOOSTER +B
A. DUB/REC
MONITOR CUT
PB 9V
MUTE
REC 9V
To SYSTEM CONTROL PG915
PG609
WIRED REMOTE
REC START
9V PULSE
SPEED PLAY
F. ADVANCE
SLOW
STILL
To SERVO PG505
PG606
CTL PULSE
GND
IC601 TA4345
MM
DELAY
IC602 TA4301
DIFF
MONO-MULTI
IC603 HA1406
IC604 BA847
CTL AMP
RUN/STOP CONTROL
BRAKE CONTROL
CTL PB AMP
MM4
MM2
MM3
MM8
MM1
MM6
MM5
CTL REC AMP
SLOW, STILL
SLOW, STILL
PB CAPSTAN MOTOR SIGNAL
REC CYLINDER MOTOR SIGNAL
Q1601 2SC2021S
Q1602 2SC2021S
Q1604 2SC2021S
D1601 1S2076
D1603 1S2076
D1604 1S2076
D1605 1S2076
D1606 1S2076
D1607 1S2076
D1608 1S2076
D1610 1S2076
D1611 1S2076
D1612 1S2076
D1614 1S2076
D1615 1S2076
D1617 1S2076
D1618 DAN201
D1619 1S2076
D623 1S2076
D626 1S2076
RT1601 22KB VERT DRIVE
TP1601
TP1602
CAMERA PAUSE
SYNC
SW 25Hz
MONITOR CUT
SPEED PLAY
CAMERA
CAMERA PAUSE
A. DUB
MONITOR CUT
BOOSTER +B
REC START
AUDIO
VIDEO
Q621 2SC2021S
Q622 2SC2021S
Q1661 2SC2021S
Q1665 2SC2021S
IC605 MSA133RS
SW1 HI. ON
SW2
SW3 HI. ON
SW4
SW~4 CONTROL
ID DET
D602 1S2076
D603 1S2076
D1661 1S2076
REC/PB AUDIO SIGNAL
REC VIDEO SIGNAL
REC AUDIO SIGNAL
PB VIDEO SIGNAL

※ VOLTAGES ARE MEA
※ THERE ARE 3 G


IC601 TA4345
IC602 TA4301
IC603 HA1406
IC605 MSA133RS
MM
DELAY
DIFF
MONO-MULTI
CTL AMP
RUN/STOP CONTROL
BRAKE CONTROL
CTL PB AMP
MM4
MM2
MM3
MM8
MM1
MM5
CTL REC AMP
SLOW, STILL
Q1601 2SC2021S
RT1601 22KB VERT DRIVE
D1604 1S2076
D1603 1S2076
D1606 1S2076
D1607 1S2076
D1608 1S2076
D1619 1S2076
D1614 1S2076
D1615 1S2076
D1617 1S2076
TP1602
D626 1S2076
CAMERA PAUSE
AUDIO IN OUT
VIDEO IN OUT
MIC INPUT
D624 1S2076
D603 1S2076
D602 1S2076
D681 1S2076
Q681 2SA844D
RT681 22KB EE LEVEL
Q680 2SC2021S
Q621 2SC2021S
Q620 2SA844D
Q622 2SC2021S
Q1661 2SC2021S
Q1666 2SC2021S
Q1665 2SC2021S
Q1662 2SC1213
Q1663 2SA673
Q1664 2SC2021S
D620 1S2076
D1661 1S2076
D1662 1S2076
SW1 HI ON
SW2
SW3 HI ON
SW4
SW I~4 CONTROL
ID DET
S601 TV/VTR
SW 25Hz
SYNC
MONITOR CUT
SPEED PLAY
CAMERA
CAMERA PAUSE
A. DUB
BOOSTER +B
REC START
PG603 GND VIDEO GND AUDIO To TUNER/IF PG801
PG604 BOOSTER +B GND GND To TUNER/IF PG802
CND602 MONITER CUT SYNC GND VIDEO To Y/CHROMA PG204
PG607 GND AUDIO AUDIO GND To AUDIO PG403
PG610 GND 9V GND AUDIO GND VIDEO To RF CONVERTER
CND605 VIDEO PB 9V REC START SW 25Hz REC 9V GND 9V To Y/CHROMA PG202
PG617 GND 15V To REGULATOR CN1902
PG614 VIDEO GND VRT 12V GND AUDIO To DIN CN1252
REC/PB AUDIO SIGNAL
REC VIDEO SIGNAL
REC AUDIO SIGNAL
PB VIDEO SIGNAL
SLOW PLAY/JACK P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.
※ THERE ARE 3 GND LINE SYSTEMS ON THIS CIRCUIT BOARD.


I 593306
R602
C1606
C1605
C1604
IC601
PG611
PG608
CND602
PG612
CND605
YEL
R1638
D1619
C1617
D1606
TP1601
C1612
R1640
C1611
R1624
D1607
D620
PG609
D1612
D1610
R1620
R1625
R1629
R1631
R1630
D1605
IC604
D1611
R1641
BRN
R1617
R1627
R1635
R1618
TP1602
D1615
D1618
C1620
C1622
C1619
R1601
D1604
D1603
C1618
D1601
D1614
D1617
D1608
Q1604
PG606
C1624
C1608
C1607
C1610
R1615
C1625
R1637
R1623
C1613
IC603
RED
C1609
R1619
R1622
C1616
R1621
C1614
C1615
R1616
BRN
RV1601
TRACKING
RV1602
SLOW TRACKING(STILL)
Q1601
R1607
R1606
R1603
ORG
R1602
C1603
C1601
C1602
RED
R1604
IC602
R1601
C629
D626
PG616
Q1602
R1605
R1611
D681
R695
RT1601
VERT DRIVE
PG604
R1694
YEL
PG610
C1665
R1664
C1680
R1661
C1662
R1663
R1668
Q1661
R1691
R1690
PNK
R1662
IC605
PG617
R1693
Q1663
C1668
C1672
C1663
Q1666
C1666
R1666
R1692
R1667
C1664
C1670
C1671
R1675
Q1664
R1670
R1697
R1671
R1669
Q1665
R1677
R1665
R1678
D1661
Q1662
R1676
D1662
PG614
C1667
S601
TV/VTR SW
HTK-5V
R628
PG603
C621
R620
R622
Q621
L621
R623
R621
C624
C620
Q622
R630
R629
R637
R626
L620
R691
R688
C620
C627
R672
C681
R689
L622
Q681
C684
R627
R624
BLK
Q620
R694
RT681
Q680
C683
C682
R693
R625
R687
R690
BLK
D603
PNK
D602
C622
R681
R683
R680
R1688
R1689
C680
D624
R605
E-E AUDIO LEVEL
C626
R608
PG607
R686
R607
R606
R636
R684
D623
C602
R685
R639
PAUSE
VIDEO IN
VIDEO OUT
AUDIO IN
AUDIO OUT
MIC IN

SLOW PLAY/JACK P.C.B

PG608

1	——
2	CYL FG
3	PB 9V
4	9V
5	GND
6	MUTE
7	REC 9V
8	A. DUB/REC
9	——

To
AUDIO
PG404

PG606

1	CTL PULSE
2	GND

To
SERVO
PG505

PG609

1	WIRED REMOTE
2	REC START
3	9V
4	SPEED PLAY
5	F. ADVANCE
6	SLOW
7	STILL

To
SYSTEM
CONTROL
PG915

PG603

1	GND
2	VIDEO
3	GND
4	AUDIO

To
TUNER/IF
PG801

PG610

1	GND
2	9V
3	——
4	GND
5	AUDIO
6	——
7	GND
8	VIDEO

To
RF CONVERTER

PG604

1	BOOSTER +B
2	——
3	GND

To
TUNER/IF
PG802

PG611

1	SLOW/STILL
2	SW 25Hz
3	GND
4	CYL FG
5	SYNC
6	CTL PULSE
7	TRACKING
8	TRACKING

To
SERVO
PG508

PG607

1	GND
2	AUDIO
3	AUDIO
4	GND

To
AUDIO
PG403

PG612

1	——
2	CAMERA
3	CAMERA PAUSE
4	——
5	BOOSTER +B
6	A. DUB/REC
7	MONITOR CUT
8	PB 9V
9	MUTE
10	REC 9V

To
SYSTEM
CONTROL
PG917

PG617

1	GND
2	15V

To
REGULATOR
CN1902

PG614

1	VIDEO
2	GND
3	VTR 12V
4	GND
5	AUDIO

To
DIN
CN1252

PG616

1	REVERSE P.
2	H. STABILITY
3	CAPST SERVO
4	BRAKE PULSE
5	SLOW TRACKING

To
SERVO
PG509

CND605

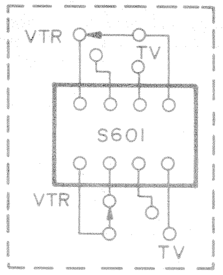
1	VIDEO
2	——
3	PB 9V
4	——
5	REC START
6	SW 25Hz
7	REC 9V
8	GND
9	9V

To
Y/CHROMA
PG202

CND602

1	MONITOR CUT
2	SYNC
3	GND
4	VIDEO

To
Y/CHROMA
PG204


VTR
TV
S601
VTR
TV

IC601

1	2	3	4	5	6	7	8	9	10	11	12
0.05(0.03)	-0.005(-0.02)	8.3(8.3)	0.004(-0.001)	1.1(1.1)	1.1(1.1)	9.5(9.4)	-0.005(-0.02)	4.8(4.8)	0.04(0.03)	9.5(9.5)	9.4(9.4)

IC602

1	2	3	4	5	6	7	8	9	10	11	12	13	14
6.8(6.7)	5.0(4.4)	6.2(6.2)	0.08(0.06)	0.05(0.03)	9.5(9.5)	0.05(0.03)	9.5(9.4)	0.4(0.05)	9.5(9.5)	9.5(9.5)	1.3(1.2)	0.26(0.15)	-0.004(-0.02)

IC603

1	3	4	5	6	7	8
2.1(1.9)	0,62(0.5)	0.012(-0.01)	-0.005(-0.02)	0.71(1.0)	3.7(1.9)	6.8(4.0)

IC604

22	9.5(9.5)	1	0.008(-0.006)
21	5.0(1.8)	2	0.008(-0.006)
20	0.05(0.03)	3	0.26(0.24)
19	4.9(5.0)	4	0.008(-0.006)
18	4.8(4.8)	5	0.14(0.16)
17	7.9(7.8)	6	0.16(-0.009)
16	0.55(0.5)	7	0.003(-0.01)
15	0.5(0.5)	8	0.002(-0.01)
14	0.64(0.63)	9	0.003(6.3)
13	0.15(0.3)	10	0.2(1.9)
12	-0.04(2.4)	11	-0.004(-0.02)

Q620

B	7.0(7.0)
C	4.0(4.3)
E	7.7(7.7)

Q621

B	4.0(4.2)
C	8.0(8.0)
E	3.5(3.5)

Q622

B	0(0)
C	9.4(9.4)
E	5.5(4.7)

Q1661

B	5.3(3.0)
C	9.4(9.4)
E	4.5(2.3)

Q1662

B	12(0)
C	15(0)
E	11.4(0)

Q1663

B	14.2(14.8)
C	15(0)
E	15(15)

Q1664

B	0(0)
C	0(14)
E	0(0)

Q1665

B	0(0.7)
C	3.8(0)
E	0(0)

Q1666

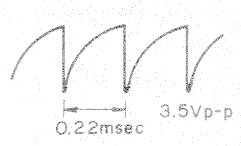
B	0(0.7)
C	4.4(0)
E	0(0)

IC605

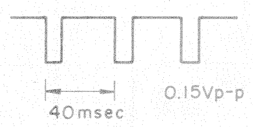
9	10	11	12	13	14	15	16
4.4(0.2)	15(0)	5.3(3.0)	3.9(3.9)	0(0)	4.4(2.3)	9.5(9.5)	3.1(3.1)
8	7	6	5	4	3	2	1
15(0)	12(0)	3.3(3.3)	3.3(3.3)	3.0(2.9)	3.6(0.7)	3.8(0)	0(0)

※ VOLTAGES ARE MEASURED IN PLAY MODE , AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

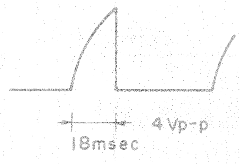
IC604-4 SLOW



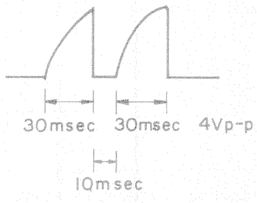
IC604-13 PB

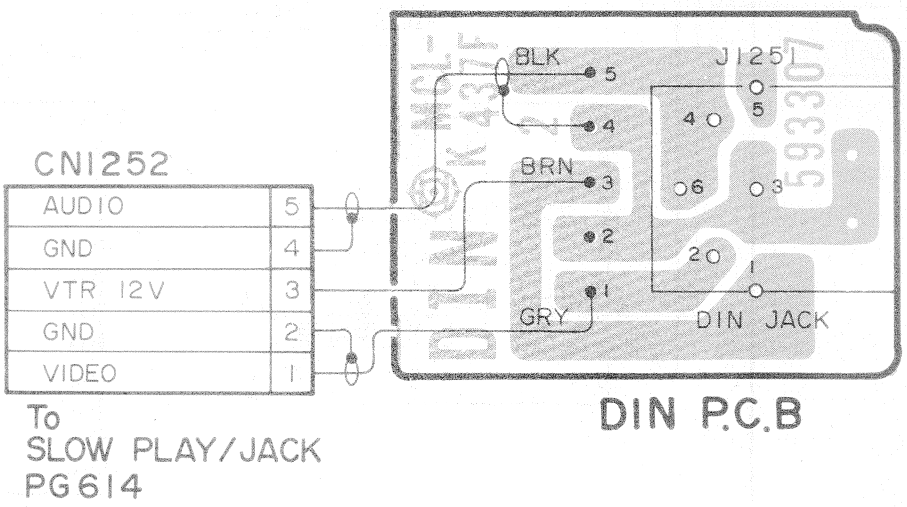


IC604-15 SLOW



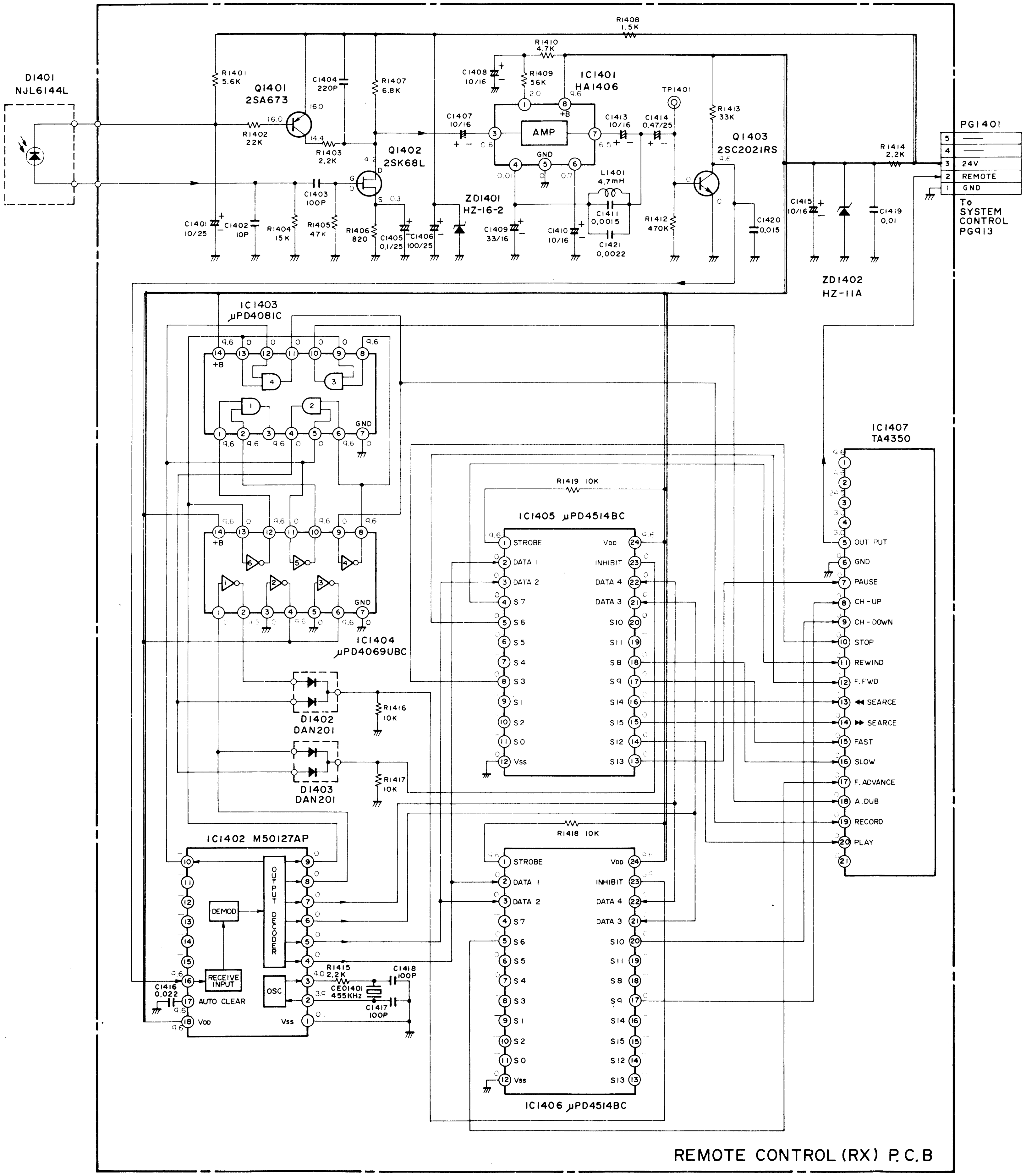
IC604-20



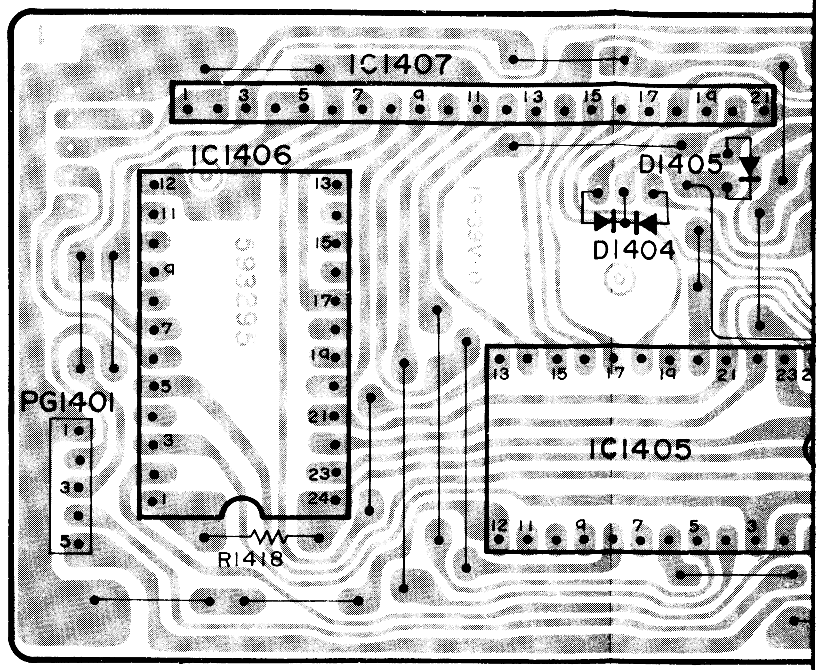

CN1252
AUDIO 5
GND 4
VTR 12V 3
GND 2
VIDEO 1
To
SLOW PLAY/JACK
PG614
BLK
BRN
GRY
5
4
3
2
1
J1251
DIN JACK
DIN
MCL-K437F
593307

DIN P.C.B

REMOTE CONTROL (RX)


D1401
NJL6144L
R1401 5.6K
Q1401 2SA673
C1404 220P
R1407 6.8K
R1402 22K
R1403 2.2K
Q1402 2SK68L
C1401 10/25
C1402 10P
C1403 100P
R1404 15K
R1405 47K
R1406 820
C1405 0.1/25
C1406 100/25
R1408 1.5K
R1410 4.7K
C1408 10/16
R1409 56K
IC1401 HA1406
AMP
GND
C1407 10/16
C1413 10/16
C1414 0.47/25
TP1401
R1413 33K
Q1403 2SC2021RS
ZD1401 HZ-16-2
C1409 33/16
C1410 10/16
L1401 4.7mH
C1411 0.0015
C1421 0.0022
R1412 470K
C1420 0.015
C1415 10/16
C1419 0.01
ZD1402 HZ-11A
R1414 2.2K
PG1401
24V
REMOTE
GND
To SYSTEM CONTROL PG913
IC1403 μPD4081C
IC1404 μPD4069UBC
D1402 DAN201
R1416 10K
D1403 DAN201
R1417 10K
IC1405 μPD4514BC
R1419 10K
STROBE
DATA 1
DATA 2
DATA 3
DATA 4
INHIBIT
VDD
VSS
IC1407 TA4350
OUT PUT
GND
PAUSE
CH-UP
CH-DOWN
STOP
REWIND
F.FWD
◀◀ SEARCE
▶▶ SEARCE
FAST
SLOW
F.ADVANCE
A.DUB
RECORD
PLAY
IC1402 M50127AP
DEMOD
OUTPUT DECODER
RECEIVE INPUT
OSC
AUTO CLEAR
R1415 2.2K
CE01401 455KHz
C1418 100P
C1417 100P
C1416 0.022
R1418 10K
IC1406 μPD4514BC
REMOTE CONTROL (RX) P.C.B

※ VOLTAGES ARE MEASURED IN STOP MODE.


IC1407
IC1406
D1405
D1404
PG1401
IC1405
R1418
593295

PG1401

1	GND
2	REMOTE
3	24V
4	——
5	——

To
SYSTEM
CONTROL
PG913

IC1401

8	7	6	5	4	3	2
9.6	6.5	0.7	0	0.01	0.6	—

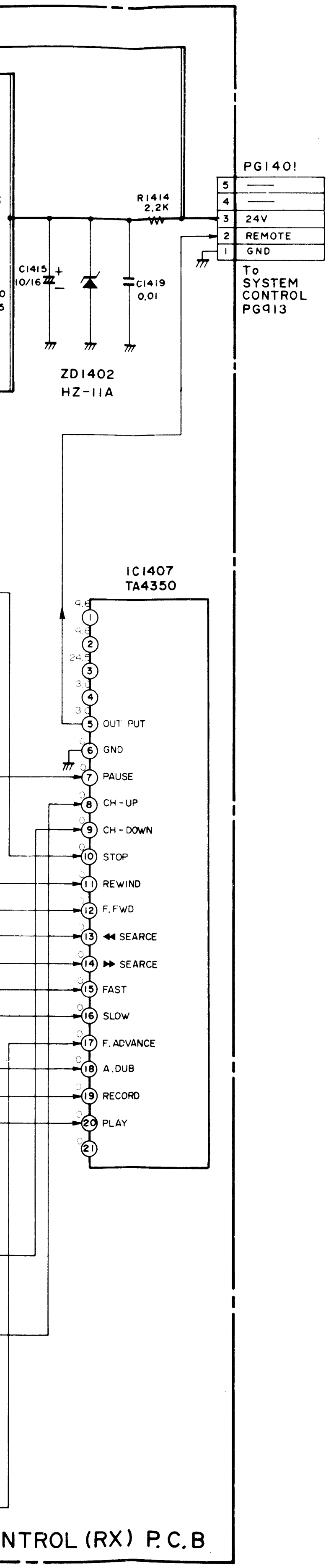
IC1402

9	0	10	—
8	0	11	—
7	0	12	—
6	0	13	—
5	0	14	—
4	0	15	—
3	4.0	16	9.6
2	3.9	17	9.6
1	0	18	9.6

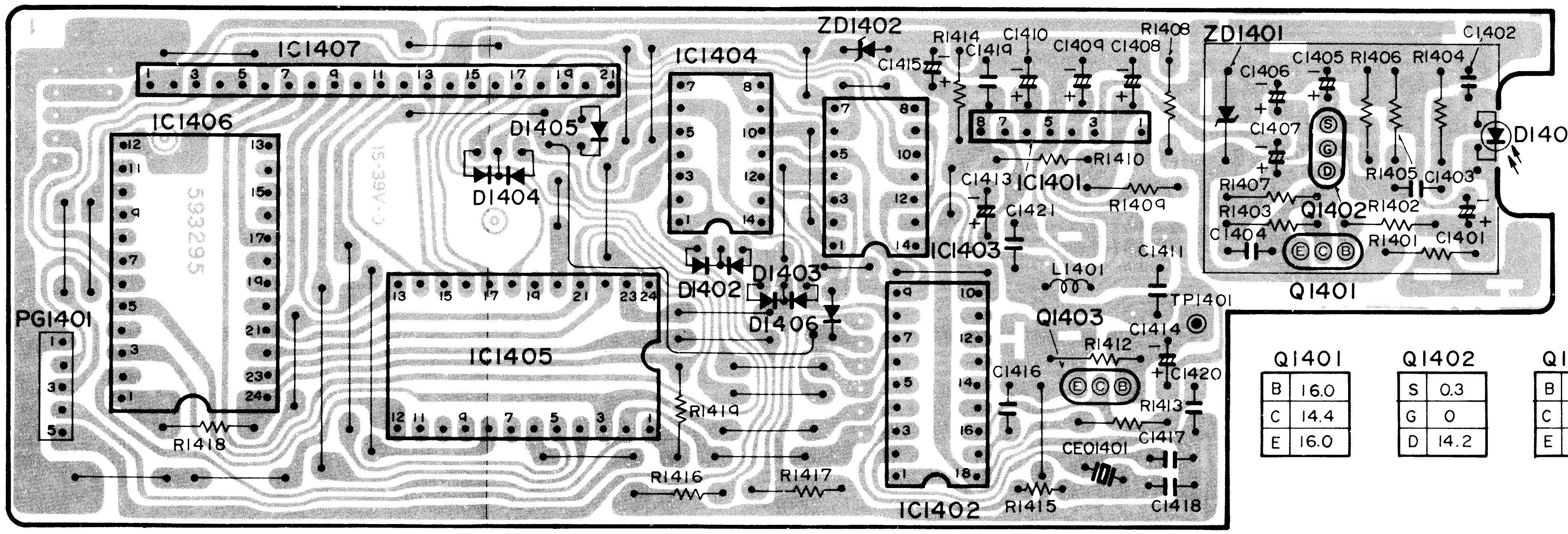
※ VOLTAGES ARE MEASURED IN STOP MODE.

IC1407

1	2	3	4	5	6	7
9.6	9.6	24.5	3.0	3.0	0	0


R1414
2.2K
PG1401
5 ——
4 ——
3 24V
2 REMOTE
1 GND
To
SYSTEM
CONTROL
PG913
C1415
10/16
C1419
0.01
ZD1402
HZ-11A
IC1407
TA4350
9.6
9.6
24.5
3.0
3.0
OUT PUT
GND
PAUSE
CH-UP
CH-DOWN
STOP
REWIND
F.FWD
◀◀ SEARCE
▶▶ SEARCE
FAST
SLOW
F. ADVANCE
A.DUB
RECORD
PLAY

NTROL (RX) P.C.B


IC1407
IC1404
IC1406
IC1405
IC1401
IC1402
IC1403
ZD1402
ZD1401
D1401
D1402
D1403
D1404
D1405
D1406
PG1401
Q1401
Q1402
Q1403
TP1401
L1401
CE01401
R1401
R1402
R1403
R1404
R1405
R1406
R1407
R1408
R1409
R1410
R1412
R1413
R1414
R1415
R1416
R1417
R1418
R1419
C1401
C1402
C1403
C1404
C1405
C1406
C1407
C1408
C1409
C1410
C1411
C1413
C1414
C1415
C1416
C1417
C1418
C1419
C1420
C1421
593295
15-39V-3

Q1401	
B	16.0
C	14.4
E	16.0

Q1402	
S	0.3
G	0
D	14.2

Q1403	
B	0
C	9.6
E	0

REMOTE CONTROL (RX) P.C.B

PG1401

1	GND
2	REMOTE
3	24V
4	——
5	——

To
SYSTEM
CONTROL
PG913

※ VOLTAGES ARE MEASURED IN STOP MODE.

IC1401

8	7	6	5	4	3	2	1
9.6	6.5	0.7	0	0.01	0.6	—	2.0

IC1402

9	0	10	—
8	0	11	—
7	0	12	—
6	0	13	—
5	0	14	—
4	0	15	—
3	4.0	16	9.6
2	3.9	17	9.6
1	0	18	9.6

IC1405

13	14	15	16	17	18	19	20	21	22	23	24
0	0	0	0	0	0	—	0	0	0	0	9.6
12	11	10	9	8	7	6	5	4	3	2	1
0	—	—	—	0	—	0	0	0	0	0	9.6

IC1403

7	0	8	9.6
6	9.6	9	0
5	0	10	0
4	0	11	0
3	9.6	12	0
2	9.6	13	0
1	9.6	14	9.6

IC1404

7	0	8	9.6
6	9.6	9	0
5	0	10	9.6
4	9.6	11	0
3	0	12	9.6
2	9.5	13	0
1	0	14	9.6

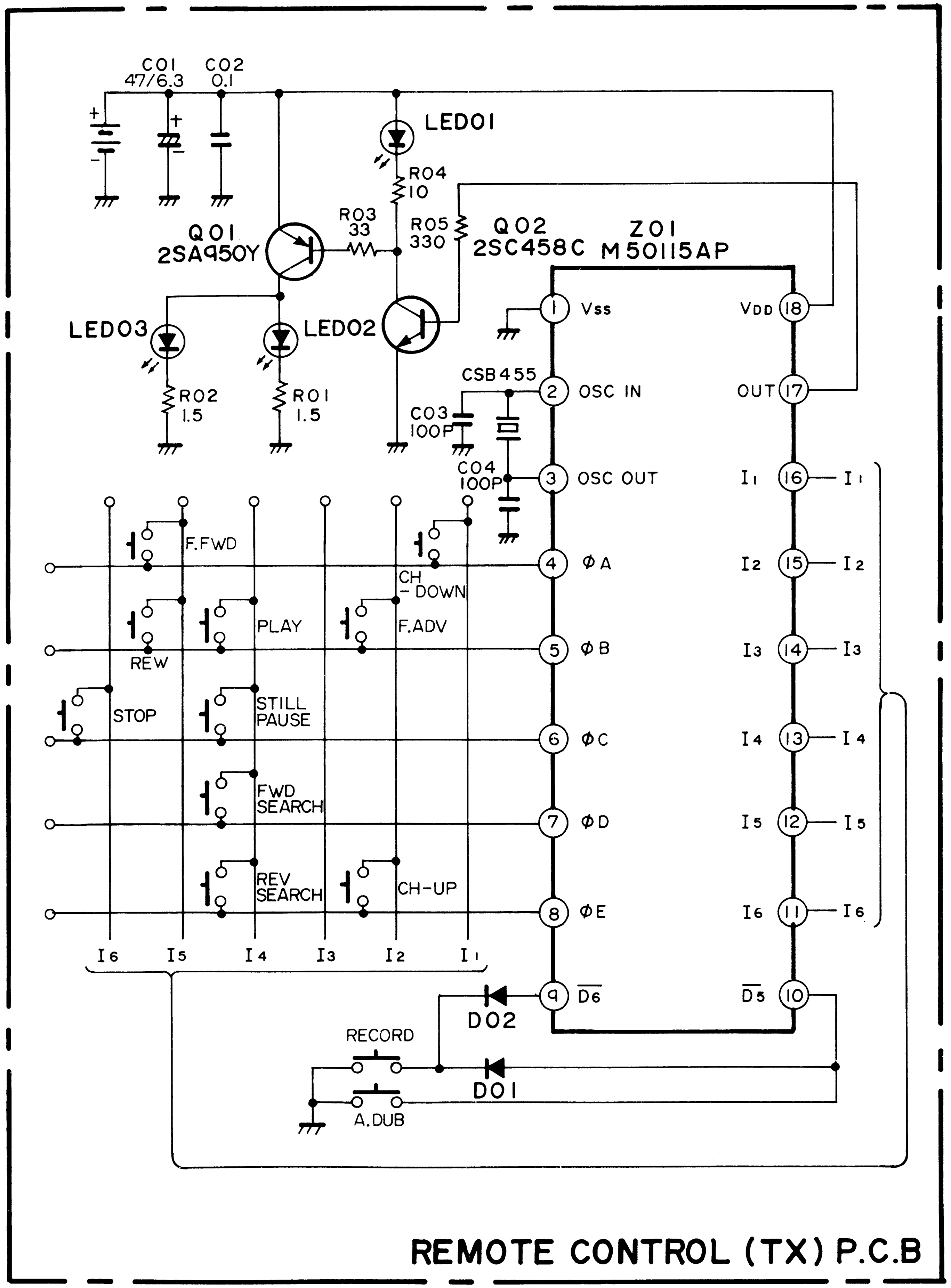
IC1406

12	0	13	—
11	—	14	—
10	—	15	—
9	—	16	—
8	—	17	0
7	0	18	—
6	0	19	—
5	0	20	0
4	—	21	0
3	0	22	0
2	0	23	8.9
1	9.6	24	9.6

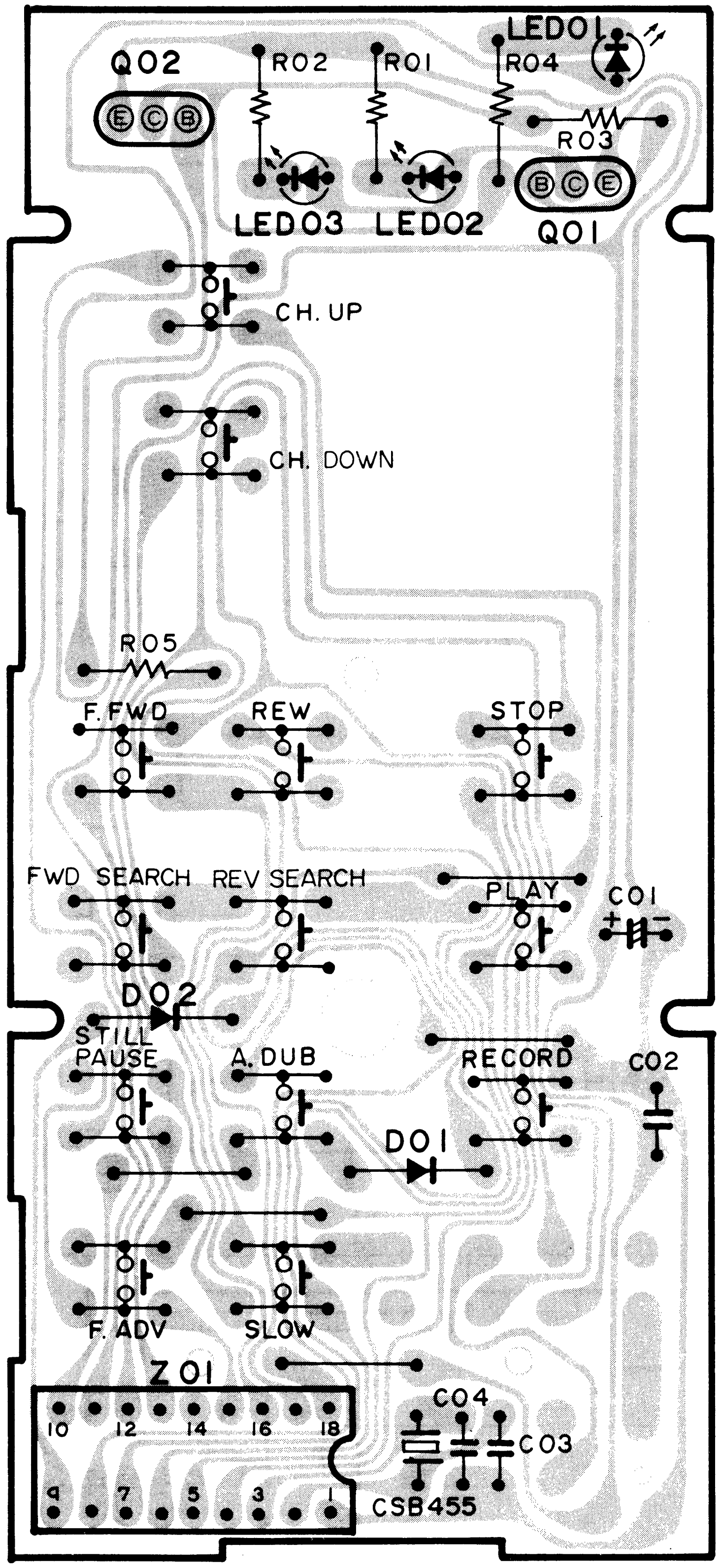
IC1407

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
9.6	9.6	24.5	3.0	3.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

REMOTE CONTROL (TX)

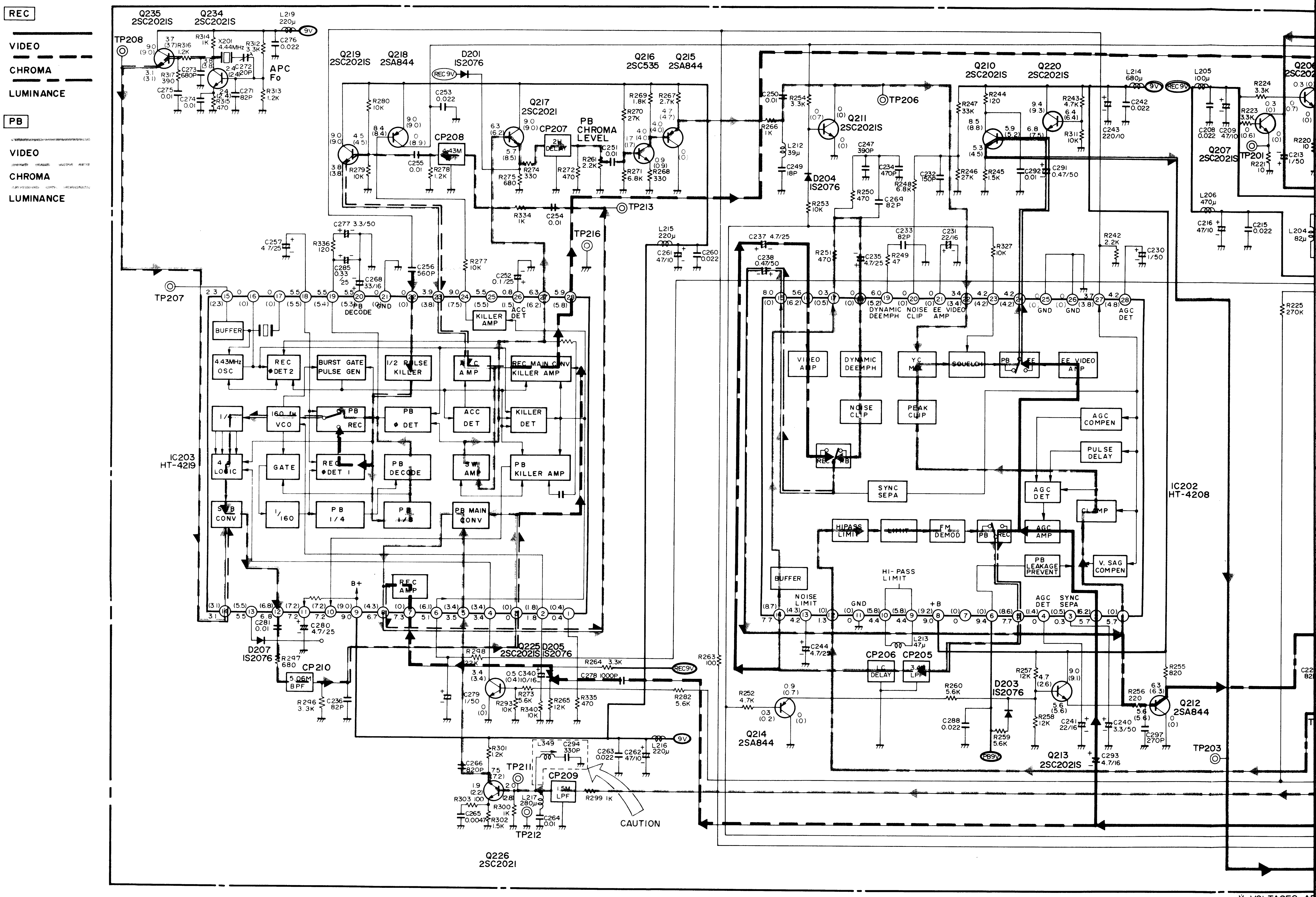

C01
47/6.3
C02
0.1
LED01
R04
10
R03
33
R05
330
Q01
2SA950Y
Q02
2SC458C
Z01
M50115AP
LED03
LED02
R02
1.5
R01
1.5
CSB455
C03
100P
C04
100P
1 Vss
2 OSC IN
3 OSC OUT
4 ΦA
5 ΦB
6 ΦC
7 ΦD
8 ΦE
9 D6
VDD 18
OUT 17
I1 16
I2 15
I3 14
I4 13
I5 12
I6 11
D5 10
F.FWD
CH - DOWN
PLAY
F.ADV
REW
STOP
STILL PAUSE
FWD SEARCH
REV SEARCH
CH-UP
I6 I5 I4 I3 I2 I1
D02
D01
RECORD
A.DUB

REMOTE CONTROL (TX) P.C.B

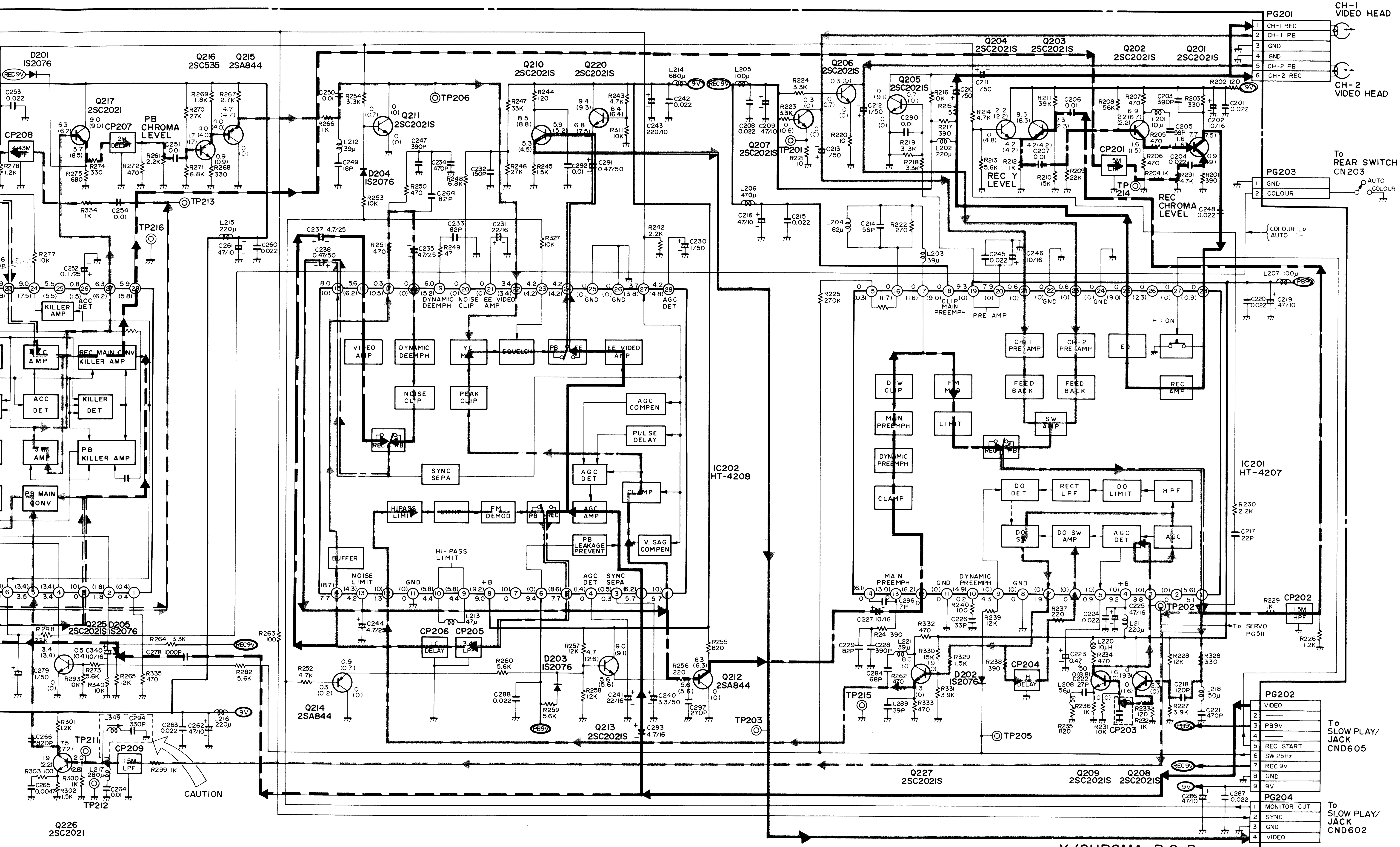

Q02
E C B
R02
R01
R04
LED01
R03
B C E
LED03
LED02
Q01
CH. UP
CH. DOWN
R05
F.FWD
REW
STOP
FWD SEARCH
REV SEARCH
PLAY
C01
D02
STILL PAUSE
A.DUB
RECORD
C02
D01
F.ADV
SLOW
Z01
10 12 14 16 18
9 7 5 3 1
C04
C03
CSB455

REMOTE CONTROL (TX) P.C.B

Y/CHROMA (For UK model)


REC
VIDEO
CHROMA
LUMINANCE
PB
VIDEO
CHROMA
LUMINANCE
Q235 2SC2021S
Q234 2SC2021S
X201 4.44MHz
APC Fo
L219 220μ
9V
TP208
Q219 2SC2021S
Q218 2SA844
D201 IS2076
REC9V
Q217 2SC2021
CP207 2H DELAY
PB CHROMA LEVEL
Q216 2SC535
Q215 2SA844
CP208 4.43M LPF
TP213
TP216
TP207
TP206
Q211 2SC2021S
D204 IS2076
Q210 2SC2021S
Q220 2SC2021S
Q207 2SC2021S
TP201
IC203 HT-4219
BUFFER
4.43MHz OSC
REC ΦDET 2
BURST GATE PULSE GEN
1/2 PULSE KILLER
ACC AMP
REC MAIN CONV KILLER AMP
1/4
160 fH VCO
PB REC
PB Φ DET
ACC DET
KILLER DET
4 LOGIC
GATE
REC ΦDET 1
PB DECODE
SW AMP
PB KILLER AMP
SUB CONV
1/160
PB 1/4
PB 1/8
PB MAIN CONV
REC AMP
PB DECODE
ACC DET
KILLER AMP
D207 IS2076
CP210 5.06M BPF
Q225 2SC2021S
D205 IS2076
Q226 2SC2021
CP209 1.5M LPF
TP211
TP212
CAUTION
IC202 HT-4208
DYNAMIC DEEMPH
NOISE CLIP
EE VIDEO AMP
AGC DET
VIDEO AMP
YC MIX
SQUELCH
PB EE
NOISE CLIP
PEAK CLIP
AGC COMPEN
PULSE DELAY
REC PB
SYNC SEPA
AGC DET
CLAMP
HIPASS LIMIT
LIMIT
FM DEMOD
PB REC
AGC AMP
PB LEAKAGE PREVENT
V. SAG COMPEN
BUFFER
NOISE LIMIT
GND
HI-PASS LIMIT
+B
AGC DET
SYNC SEPA
CP206 LC DELAY
CP205 3.4M LPF
D203 IS2076
PB9V
Q214 2SA844
Q213 2SC2021S
Q212 2SA844
TP203
B+

※ VOLTAGES AR

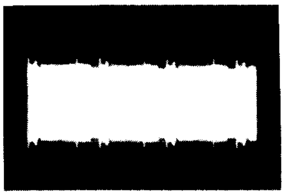

PG201
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
CH-1 REC
CH-1 PB
GND
CH-2 PB
CH-2 REC
Q204 2SC2021S
Q203 2SC2021S
Q202 2SC2021S
Q201 2SC2021S
Q206 2SC2021S
Q205 2SC2021S
Q207 2SC2021S
Q210 2SC2021S
Q220 2SC2021S
Q216 2SC535
Q215 2SA844
Q217 2SC2021
Q211 2SC2021S
D201 1S2076
D204 1S2076
CP208
CP207
CP201
PB CHROMA LEVEL
REC Y LEVEL
REC CHROMA LEVEL
TP206
TP213
TP216
TP201
TP214
To REAR SWITCH CN203
PG203
GND
COLOUR
AUTO
COLOUR
COLOUR: Lo
AUTO: -
KILLER AMP
ACC DET
Y/C AMP
REC MAIN CONV
KILLER AMP
ACC DET
KILLER DET
SW AMP
PB KILLER AMP
PB MAIN CONV
DYNAMIC DEEMPH
NOISE CLIP
EE VIDEO AMP
VIDEO AMP
Y/C MIX
SQUELCH
PB EE
EE VIDEO AMP
NOISE CLIP
PEAK CLIP
AGC COMPEN
PULSE DELAY
REC PB
SYNC SEPA
AGC DET
CLAMP
HI PASS LIMIT
LIMIT
FM DEMOD
PB REC
AGC AMP
PB LEAKAGE PREVENT
V. SAG COMPEN
BUFFER
NOISE LIMIT
GND
HI-PASS LIMIT
+B
AGC DET
SYNC SEPA
IC202 HT-4208
CLIP MAIN PREEMPH
PRE AMP
CH-1 PRE AMP
CH-2 PRE AMP
EQ
HI: ON
DW CLIP
FM MOD
FEED BACK
FEED BACK
REC AMP
MAIN PREEMPH
LIMIT
SW AMP
DYNAMIC PREEMPH
REC PB
CLAMP
DO DET
RECT LPF
DO LIMIT
HPF
DO SW
DO SW AMP
AGC DET
AGC
IC201 HT-4207
MAIN PREEMPH
DYNAMIC PREEMPH
GND
Q225 2SC2021S
D205 1S2076
Q214 2SA844
CP206 1H DELAY
CP205 3.4M LPF
D203 1S2076
Q213 2SC2021S
Q212 2SA844
TP203
TP215
TP205
D202 1S2076
CP204 1H DELAY
CP203
TP202
CP202 1.5M HPF
To SERVO PG511
Q226 2SC2021
TP211
TP212
CP209 1.5M LPF
CAUTION
Q227 2SC2021S
Q209 2SC2021S
Q208 2SC2021S
PG202
VIDEO
PB9V
REC START
SW 25Hz
REC 9V
GND
9V
To SLOW PLAY/ JACK CND605
PG204
MONITOR CUT
SYNC
GND
VIDEO
To SLOW PLAY/ JACK CND602
REC9V
PB9V
9V

Y/CHROMA P.C.B

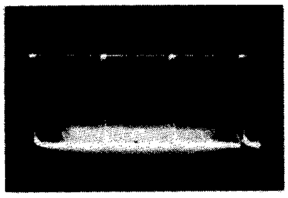
※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) MEASURED IN RECORD MODE.

Y/CHROMA WAVEFORMS

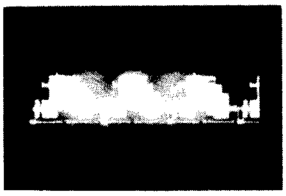
TP201 REC
50mV/20μs. div.



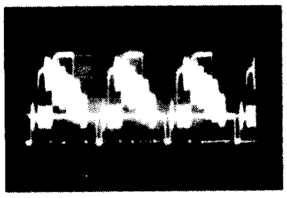
IC202 ㉗ PB
2V/20μS. div.



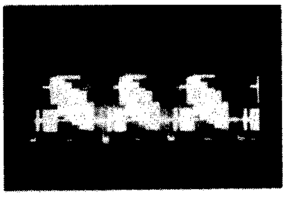
TP203 REC
1V/20μS. div.



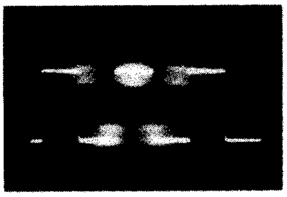
TP203 PB
0.5V/20μS. div.



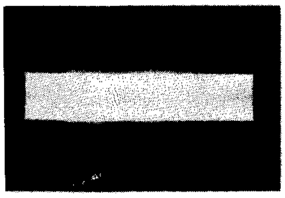
TP204 STOP
0.5V/20μS. div.



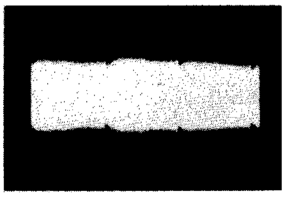
TP205 PB/REC
2V/10μS. div.



IC201 ① REC
0.5V/20μS. div.



IC201 ① PB
0.2V/5mS. div.



Q201

B	1.6 (1.6)
C	7.7 (7.5)
E	0.9 (0.9)

Q202

B	2.2 (2.2)
C	6.9 (6.7)
E	1.6 (1.5)

Q203

B	2.3 (2.3)
C	8.3 (8.3)
E	4.2 (4.2)

Q204

B	0 (4.8)
C	2.2 (2.2)
E	4.2 (4.2)

Q205

B	0.7 (0)
C	0 (9.1)
E	0 (0)

Q206

B	0 (0.7)
C	0.3 (0)
E	0 (0)

Q207

B	0 (0.6)
C	0.3 (0)
E	0 (0)

Q208

B	2.3 (0)
C	0 (9.3)
E	0 (1.6)

Q209

B	1.6 (0)
C	0 (8.8)
E	1.0 (0)

Q210

B	5.9 (5.2)
C	8.5 (8.8)
E	5.3 (4.5)

Q211

B	0 (0.7)
C	0 (0)
E	0 (0)

Q212

B	5.6 (5.6)
C	0 (0)
E	6.3 (6.3)

Q213

B	4.7 (2.6)
C	9.0 (9.1)
E	5.6 (5.6)

Q214

B	0.3 (0.2)
C	0 (0)
E	0.9 (0.7)

Q215

B	4.0 (4.0)
C	0 (0)
E	4.7 (4.7)

Q216

B	1.7 (1.7)
C	4.0 (4.0)
E	0.9 (0.9)

Q217

B	6.3 (6.2)
C	9.0 (9.0)
E	5.7 (8.5)

Q218

B	8.4 (8.4)
C	0 (8.9)
E	9.0 (9.0)

Q219

B	4.5 (4.5)
C	9.0 (9.0)
E	3.8 (3.8)

Q220

B	6.4 (6.4)
C	9.4 (9.3)
E	6.8 (7.5)

Q225

B	0.5 (0.4)
C	3.4 (3.4)
E	0 (0)

Q226

B	2.0 (2.8)
C	7.5 (7.2)
E	1.9 (2.2)

Q227

B	1.9 (0)
C	8.0 (0)
E	1.3 (0)

Q234

B	2.4 (2.4)
C	3.8 (3.8)
E	2.4 (2.4)

Q235

B	3.7 (3.7)
C	9.0 (9.0)
E	3.1 (3.1)

IC201

15	16	17	18	19	20	21	22	23	24	25	26	27	28
0 (0.3)	0 (1.7)	0 (1.6)	0 (9.0)	9.3 (0)	7.9 (0)	0.6 (0)	0 (0)	0.6 (0)	0 (0)	0 (9.0)	0 (2.3)	0 (0)	0 (0.9)
14	13	12	11	10	9	8	7	6	5	4	3	2	1
0 (6.1)	0 (3.0)	0 (6.2)	0 (0)	0.2 (4.9)	4.3 (0)	0 (0)	1.9 (0)	0 (0)	0.9 (0)	9.2 (0)	8.8 (0)	0 (0)	5.1 (5.6)

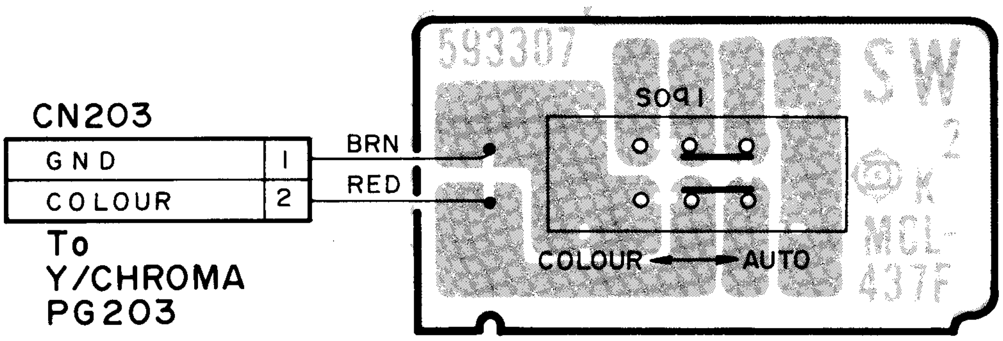
IC202

15	16	17	18	19	20	21	22	23	24	25	26	27	28
8.0 (0)	5.6 (6.2)	0.3 (0.5)	0 (0)	6.0 (5.2)	0 (0)	0 (0)	3.4 (3.4)	4.2 (4.2)	4.2 (4.2)	0 (0)	0 (0)	3.7 (3.8)	4.2 (4.8)
14	13	12	11	10	9	8	7	6	5	4	3	2	1
7.7 (8.7)	4.2 (4.3)	1.3 (0)	0 (0)	4.4 (5.8)	4.4 (5.8)	9.0 (9.2)	0 (0)	9.4 (0)	7.7 (8.6)	0 (1.4)	0.3 (0.5)	5.7 (6.2)	5.7 (0)

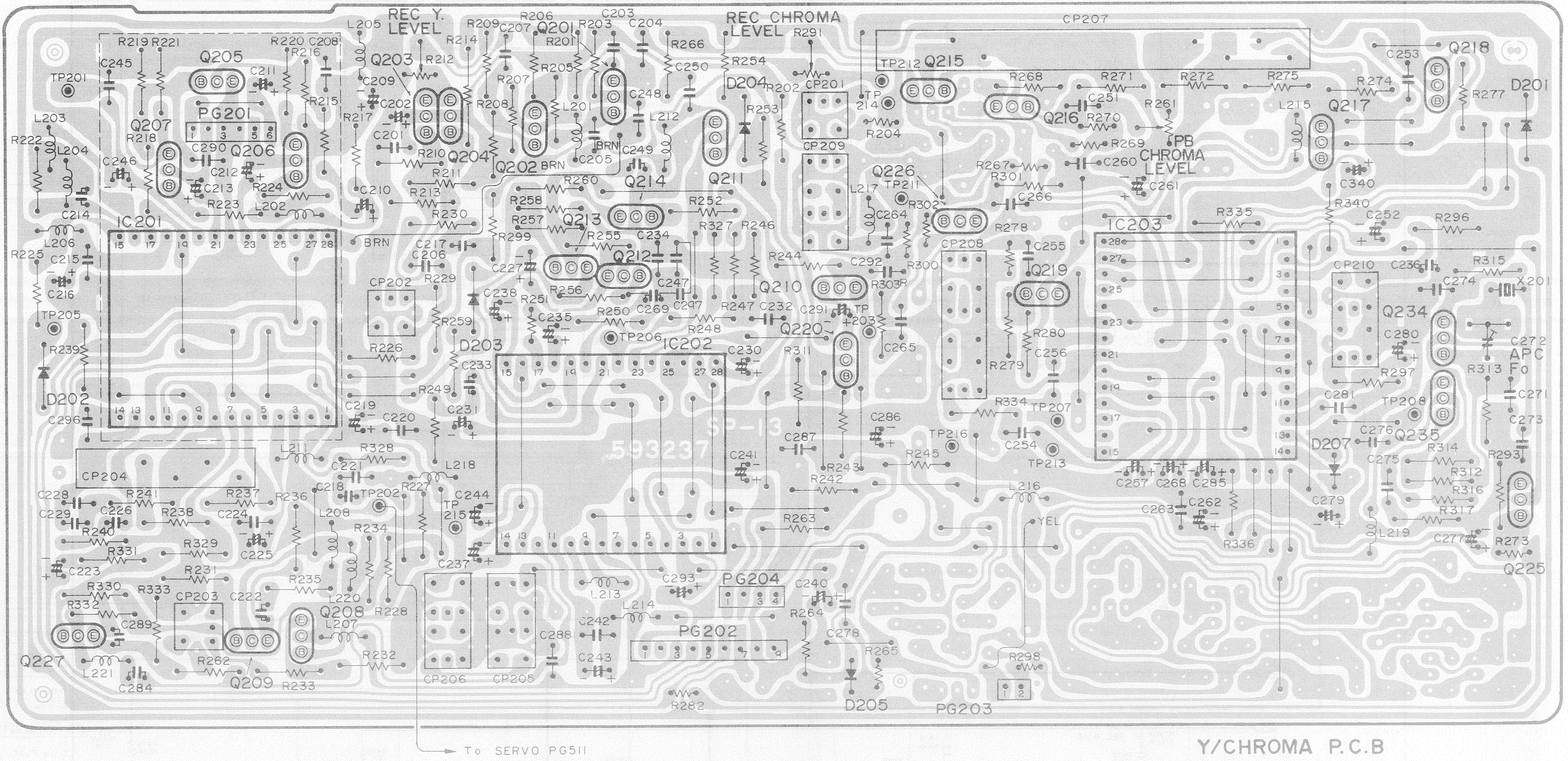
IC203

28	5.9 (5.8)	1	0.4 (0.4)
27	6.3 (6.2)	2	1.8 (1.8)
26	0.8 (1.5)	3	0 (0)
25	5.5 (5.5)	4	3.4 (3.4)
24	9.0 (7.5)	5	3.5 (3.4)
23	3.9 (3.8)	6	5.1 (6.1)
22	0 (0)	7	7.3 (0)
21	0 (0)	8	6.7 (4.3)
20	5.5 (5.3)	9	9.0 (9.0)
19	5.5 (5.4)	10	7.2 (7.2)
18	5.5 (5.5)	11	7.2 (7.2)
17	0 (0)	12	6.8 (6.8)
16	0 (0)	13	5.5 (5.5)
15	2.3 (2.3)	14	3.1 (3.1)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) MEASURED IN RECORD MODE.



REAR SWITCH P.C.B


REC Y. LEVEL
REC CHROMA LEVEL
PB CHROMA LEVEL
APC Fo
CP207
CP201
CP202
CP203
CP204
CP205
CP206
CP208
CP209
CP210
PG201
PG202
PG203
PG204
IC201
IC202
IC203
SP-13
593237
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q208
Q209
Q210
Q211
Q212
Q213
Q214
Q215
Q216
Q217
Q218
Q219
Q220
Q225
Q226
Q227
Q234
Q235
D201
D202
D203
D204
D205
D207
TP201
TP202
TP203
TP205
TP206
TP207
TP208
TP211
TP212
TP213
TP214
TP215
TP216
X201
BRN
YEL
To SERVO PG511

Y/CHROMA P.C.B

PG201

1	CH-1 REC
2	CH-1 PB
3	GND
4	GND
5	CH-2 PB
6	CH-2 REC

To
VIDEO
HEAD
CN014

PG202

1	VIDEO
2	——
3	PB9V
4	——
5	REC START
6	SW25Hz
7	REC 9V
8	GND
9	9V

To
SLOW PLAY /
JACK
CND605

PG203

1	GND
2	COLOUR

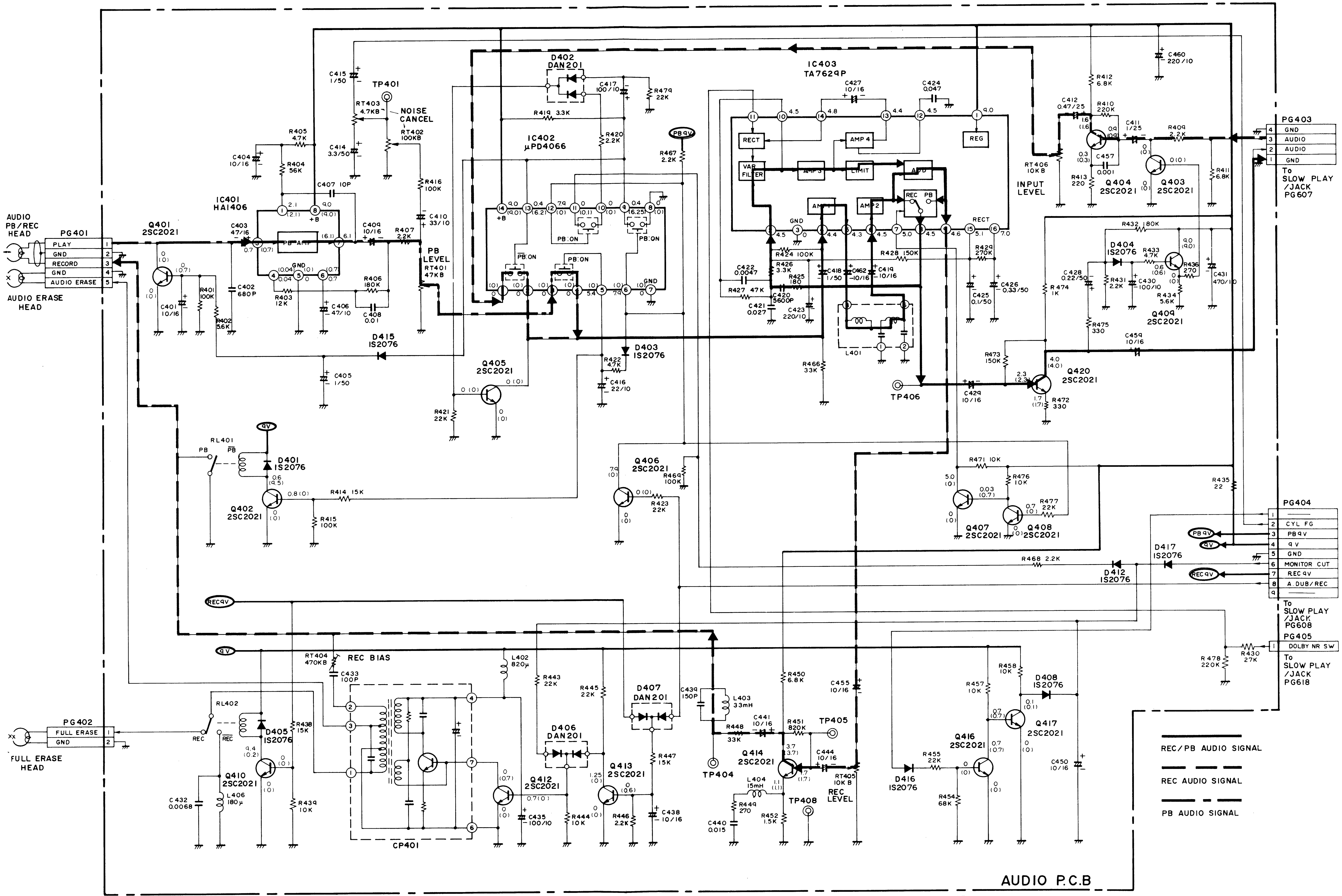
To
REAR
SWITCH
CN023

PG204

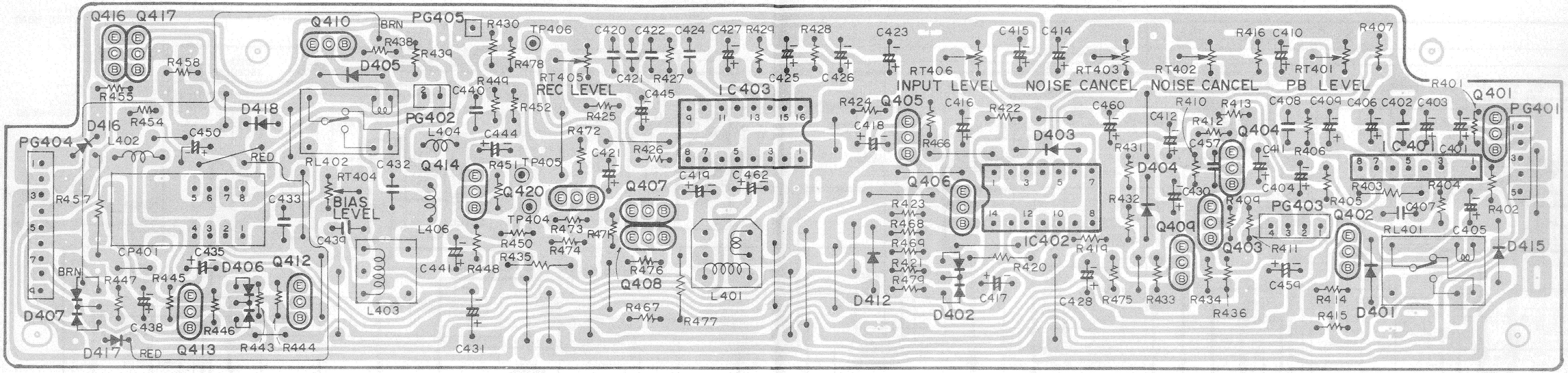
1	MONITOR CUT
2	SYNC
3	GND
4	VIDEO

To
SLOW PLAY /
JACK
CND602

AUDIO (For UK model)


AUDIO PB/REC HEAD
PG401
PLAY
GND
RECORD
GND
AUDIO ERASE
AUDIO ERASE HEAD
Q401 2SC2021
IC401 HA1406
PB AMP
C403 47/16
C402 680P
C401 10/16
R401 100K
R402 5.6K
R403 12K
R404 56K
R405 4.7K
C404 10/16
C407 10P
C406 47/10
C408 0.01
R406 180K
C409 10/16
R407 2.2K
C410 33/10
R416 100K
PB LEVEL RT401 47KB
C415 1/50
C414 3.3/50
TP401
RT403 4.7KB
NOISE CANCEL
RT402 100KB
D415 1S2076
C405 1/50
D402 DAN201
C417 100/10
R479 22K
R419 3.3K
R420 2.2K
IC402 μPD4066
PB:ON
PB9V
R467 2.2K
D403 1S2076
R422 4.7K
C416 22/10
Q405 2SC2021
R421 22K
IC403 TA7629P
C427 10/16
C424 0.047
RECT
REG
VAR FILTER
AMP 3
LIMIT
ADD
AMP 4
AMP 1
AMP 2
REC PB
GND
R424 100K
R426 3.3K
R425 180
R427 47K
C422 0.0047
C420 5600P
C421 0.027
C423 220/10
C418 1/50
C462 10/16
C419 10/16
R428 150K
R429 270K
C425 0.1/50
C426 0.33/50
L401
R466 33K
TP406
C429 10/16
Q420 2SC2021
R473 150K
R472 330
R474 1K
R475 330
C459 10/16
C428 0.22/50
R431 2.2K
C430 100/10
D404 1S2076
R433 4.7K
R434 5.6K
R436 270
R432 180K
Q409 2SC2021
C431 470/10
C460 220/10
R412 6.8K
C412 0.47/25
R410 220K
C411 1/25
R409 2.2K
RT406 10KB
INPUT LEVEL
C457 0.001
R413 220
Q404 2SC2021
Q403 2SC2021
R411 6.8K
PG403
GND
AUDIO
AUDIO
GND
To SLOW PLAY /JACK PG607
RL401
PB
9V
D401 1S2076
Q402 2SC2021
R414 15K
R415 100K
Q406 2SC2021
R469 100K
R423 22K
R471 10K
R476 10K
R477 22K
Q407 2SC2021
Q408 2SC2021
R435 22
PG404
CYL FG
PB9V
9V
GND
MONITOR CUT
REC9V
A.DUB/REC
D417 1S2076
D412 1S2076
R468 2.2K
To SLOW PLAY /JACK PG608
PG405
DOLBY NR SW
R478 220K
R430 27K
To SLOW PLAY /JACK PG618
REC9V
RT404 470KB
REC BIAS
C433 100P
L402 820μ
R443 22K
R445 22K
D407 DAN201
C439 150P
L403 33mH
D406 DAN201
R450 6.8K
C455 10/16
R458 10K
D408 1S2076
R457 10K
Q417 2SC2021
Q416 2SC2021
C450 10/16
PG402
FULL ERASE
GND
FULL ERASE HEAD
RL402
REC
D405 1S2076
R438 15K
Q410 2SC2021
C432 0.0068
L406 180μ
R439 10K
CP401
Q412 2SC2021
C435 100/10
R444 10K
Q413 2SC2021
R446 2.2K
R447 15K
C438 10/16
TP404
R448 33K
C441 10/16
R451 820K
TP405
Q414 2SC2021
L404 15mH
R449 270
C440 0.015
R452 1.5K
C444 10/16
RT405 10KB
REC LEVEL
TP408
R455 22K
R454 68K
D416 1S2076
REC/PB AUDIO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
AUDIO P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.


Q416
Q417
Q410
PG405
R430
TP406
C420
C422
C424
C427
R429
R428
C423
C415
C414
R416
C410
R407
R458
R455
R438
R439
D405
R478
RT405
REC LEVEL
C421
R427
C425
C426
RT406
INPUT LEVEL
RT403
NOISE CANCEL
RT402
NOISE CANCEL
RT401
PB LEVEL
R401
Q401
PG401
PG404
D416
R454
D418
C440
R449
R452
C445
IC403
R424
Q405
C416
R422
C460
R410
R413
C408
C409
C406
C402
C403
L402
C450
RED
PG402
L404
C444
R425
C418
D403
C412
R412
Q404
IC401
R457
RL402
C432
Q414
R451
TP405
R472
R426
C421
R466
R431
C457
C411
R406
RT404
BIAS LEVEL
Q420
Q407
C419
C462
Q406
D404
C430
C404
R404
R403
C433
C439
TP404
R473
R47
R423
R468
R432
R409
PG403
R405
Q402
C407
RL401
C405
R402
CP401
L406
R450
R474
R469
IC402
R419
Q409
Q403
R411
D415
C435
D406
Q412
C441
R448
R435
R476
Q408
L401
R421
R479
R420
C459
BRN
R447
R445
L403
D412
C417
C428
R475
R433
R434
R414
D401
D407
C438
R446
R467
R477
D402
R436
R415
D417
RED
Q413
R443
R444
C431

AUDIO P.C.B

PG401

1	PLAY
2	GND
3	RECORD
4	GND
5	AUDIO ERASE

To
AUDIO
CONTROL HEAD
CN091

PG402

1	FULL ERASE
2	GND

To
FULL ERASE
HEAD
CN020

PG403

1	GND
2	AUDIO
3	AUDIO
4	GND

To
SLOW PLAY
/JACK
PG607

PG404

1	———
2	CYL FG
3	PB 9V
4	9V
5	GND
6	MUTE
7	REC 9V
8	A. DUB/REC
9	———

To
SLOW PLAY
/JACK
PG608

PG405

1	DOLBY NR

To
SLOW PLAY
/JACK
PG618

IC401

8	7	6	5	4	3	2	1
9.0 (9.0)	6.1 (6.1)	0.7 (0.7)	0 (0)	0.04(0.04)	0.7 (0.7)		2.1 (2.1)

IC402

1	2	3	4	5	6	7
0 (0)	0 (0)	0 (0)	0 (0)	5.4 (0)	7.9 (0)	0 (0)
14	13	12	11	10	9	8
9.0(9.0)	0.4 (6.2)	7.9 (0)	0 (0.1)	0 (0)	0.4 (6.25)	0 (0)

IC403

9	10	11	12	13	14	15	16
4.6	4.5		4.5	4.4	4.8	5.1	7.0
8	7	6	5	4	3	2	1
4.5	5.0	4.5	4.3	4.4	0	4.5	9.0

Q401

B	0 (0.7)
C	0 (0)
E	0 (0)

Q402

B	0.8 (0)
C	0.6 (9.5)
E	0 (0)

※VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE

Q403

B	0 (0)
C	0 (0)
E	0 (0)

Q404

B	0.9 (0.9)
C	1.6 (1.6)
E	0.3 (0.3)

Q405

B	0 (0)
C	0 (0)
E	0 (0)

Q406

B	0 (0)
C	7.9 (0)
E	0 (0)

Q407

B	0.03 (0.7)
C	5.0 (0)
E	0 (0)

Q408

B	0.7 (0)
C	0.03 (0.7)
E	0 (0)

Q409

B	0.6 (0.6)
C	9.0 (9.0)
E	0 (0)

Q410

B	0 (0)
C	9.4 (0.2)
E	0 (0)

Q412

B	0.7 (0)
C	0 (0.7)
E	0 (0)

Q413

B	0 (0.6)
C	1.25 (0)
E	0 (0)

Q414

B	1.7 (1.7)
C	3.7 (3.7)
E	1.1 (1.1)

Q416

B	0 (0)
C	0.7 (0.7)
E	0 (0)

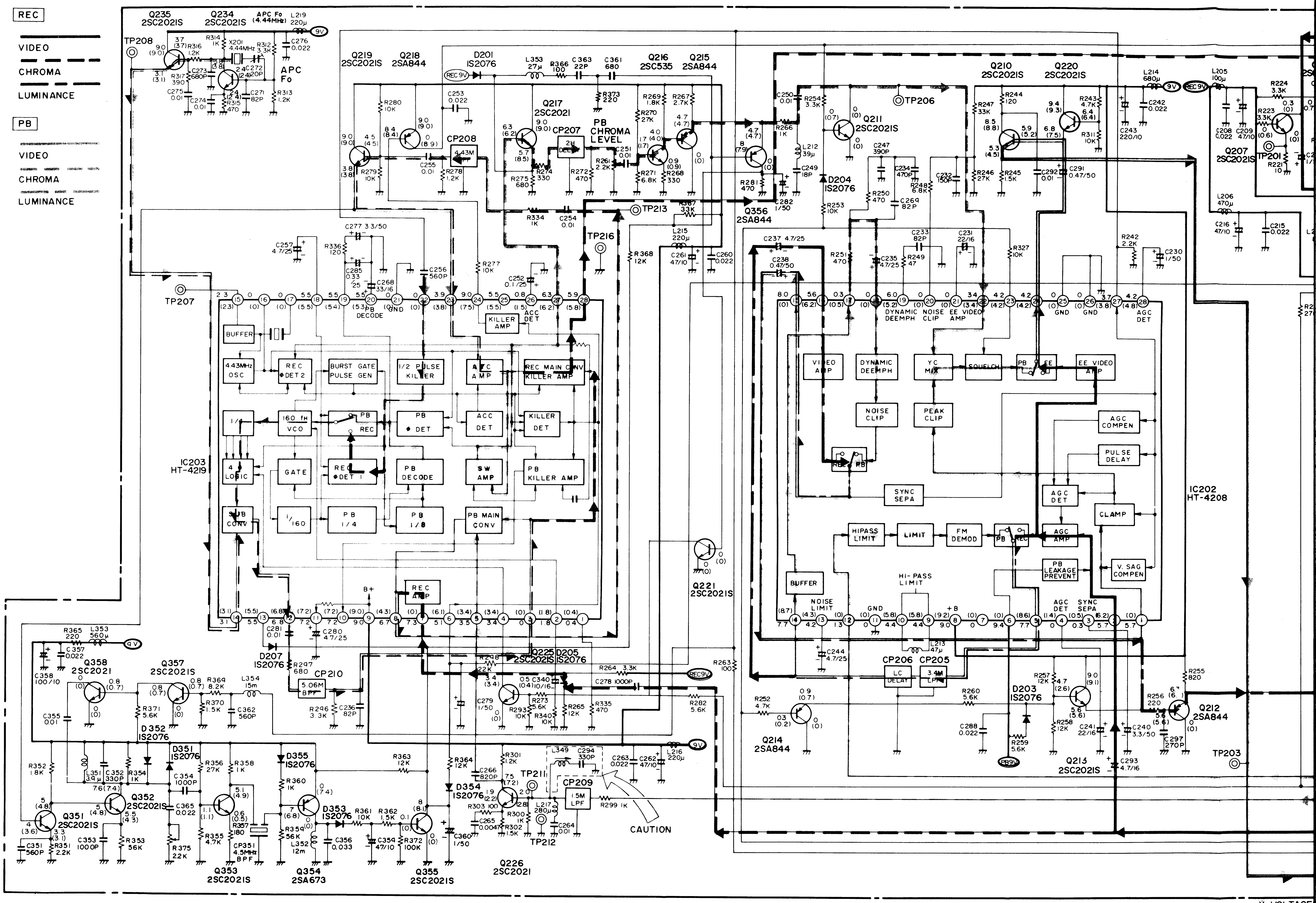
Q417

B	0.7 (0.7)
C	0.1 (0.1)
E	0 (0)

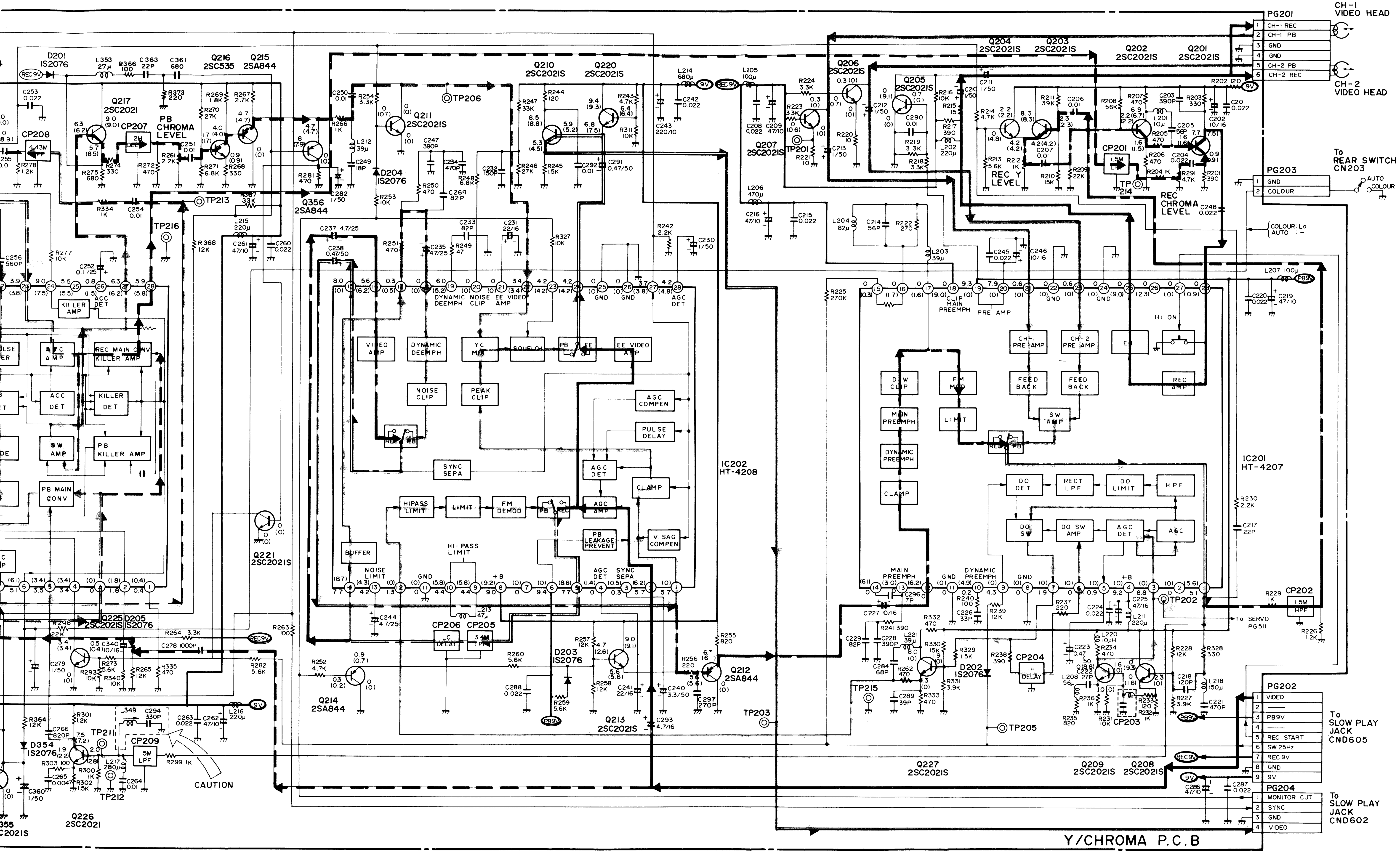
Q420

B	2.3 (2.3)
C	4.0 (4.0)
E	1.7 (1.7)

Y/CHROMA (Except for UK model)


REC
VIDEO
CHROMA
LUMINANCE
PB
VIDEO
CHROMA
LUMINANCE
Q235 2SC2021S
Q234 2SC2021S
APC Fo (4.44MHz)
X201 4.44MHz
APC Fo
TP208
Q219 2SC2021S
Q218 2SA844
D201 IS2076
Q217 2SC2021
CP207 2H DELAY
PB CHROMA LEVEL
Q216 2SC535
Q215 2SA844
CP208 4.43M
TP213
TP216
Q356 2SA844
Q211 2SC2021S
D204 IS2076
TP206
Q210 2SC2021S
Q220 2SC2021S
Q207 2SC2021S
TP201
TP207
IC203 HT-4219
BUFFER
4.43MHz OSC
REC DET 2
BURST GATE PULSE GEN
1/2 PULSE KILLER
ACC AMP
REC MAIN CONV KILLER AMP
KILLER AMP
ACC DET
1/4
160 fH VCO
PB
REC
PB DET
KILLER DET
4 LOGIC
GATE
REC DET 1
PB DECODE
SW AMP
PB KILLER AMP
SUB CONV
1/160
PB 1/4
PB 1/8
PB MAIN CONV
REC AMP
PB DECODE
GND
ACC DET
IC202 HT-4208
DYNAMIC DEEMP
NOISE CLIP
EE VIDEO AMP
AGC DET
VIDEO AMP
DYNAMIC DEEMPH
YC MIX
SQUELCH
PB EE
EE VIDEO AMP
NOISE CLIP
PEAK CLIP
AGC COMPEN
PULSE DELAY
REC PB
SYNC SEPA
AGC DET
CLAMP
HIPASS LIMIT
LIMIT
FM DEMOD
PB REC
AGC AMP
BUFFER
PB LEAKAGE PREVENT
V. SAG COMPEN
HI-PASS LIMIT
NOISE LIMIT
GND
+B
AGC DET
SYNC SEPA
Q221 2SC2021S
D207 IS2076
CP210 5.06M BPF
Q225 2SC2021S
D205 IS2076
CP206 LC DELAY
CP205 3.4M LPF
D203 IS2076
Q214 2SA844
Q213 2SC2021S
Q212 2SA844
TP203
Q358 2SC2021
Q357 2SC2021S
D352 IS2076
D351 IS2076
D355 IS2076
Q352 2SC2021S
Q351 2SC2021S
CP351 4.5MHz BPF
D353 IS2076
D354 IS2076
TP211
CP209 1.5M LPF
TP212
CAUTION
Q353 2SC2021S
Q354 2SA673
Q355 2SC2021S
Q226 2SC2021
REC9V
9V
PB9V

※ VOLTAGE

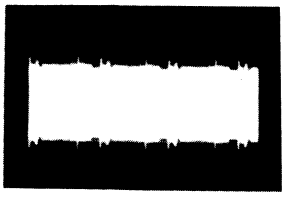

PG201
1 CH-1 REC
2 CH-1 PB
3 GND
4 GND
5 CH-2 PB
6 CH-2 REC
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
PG203
1 GND
2 COLOUR
To REAR SWITCH CN203
AUTO
COLOUR
COLOUR: Lo AUTO: -
PG202
1 VIDEO
2 ——
3 PB9V
4 ——
5 REC START
6 SW 25Hz
7 REC 9V
8 GND
9 9V
To SLOW PLAY JACK CND605
PG204
1 MONITOR CUT
2 SYNC
3 GND
4 VIDEO
To SLOW PLAY JACK CND602
To SERVO PG511
IC202 HT-4208
IC201 HT-4207
Q201 2SC2021S
Q202 2SC2021S
Q203 2SC2021S
Q204 2SC2021S
Q205 2SC2021S
Q206 2SC2021S
Q207 2SC2021S
Q208 2SC2021S
Q209 2SC2021S
Q210 2SC2021S
Q211 2SC2021S
Q212 2SA844
Q213 2SC2021S
Q214 2SA844
Q215 2SA844
Q216 2SC535
Q217 2SC2021
Q220 2SC2021S
Q221 2SC2021S
Q225 2SC2021S
Q226 2SC2021
Q227 2SC2021S
Q356 2SA844
D201 1S2076
D202 1S2076
D203 1S2076
D204 1S2076
D205 1S2076
D354 1S2076
CP201 1.5M LPF
CP202 1.5M HPF
CP203
CP204 1H DELAY
CP205 3.4M LPF
CP206 LC DELAY
CP207 2H DELAY
CP208 4.43M
CP209 1.5M LPF
PB CHROMA LEVEL
REC Y LEVEL
REC CHROMA LEVEL
CAUTION
TP201
TP202
TP203
TP205
TP206
TP211
TP212
TP213
TP214
TP215
TP216
REC9V
PB9V
9V
VIDEO AMP
DYNAMIC DEEMPH
NOISE CLIP
YC MIX
PEAK CLIP
SQUELCH
PB EE
EE VIDEO AMP
AGC COMPEN
PULSE DELAY
AGC DET
CLAMP
SYNC SEPA
HIPASS LIMIT
LIMIT
FM DEMOD
PB REC
AGC AMP
PB LEAKAGE PREVENT
V. SAG COMPEN
BUFFER
HI-PASS LIMIT
NOISE LIMIT
GND
+B
DYNAMIC DEEMPH
NOISE CLIP
EE VIDEO AMP
AGC DET
SYNC SEPA
D/W CLIP
FM MOD
MAIN PREEMPH
LIMIT
DYNAMIC PREEMPH
CLAMP
REC PB
CH-1 PRE AMP
CH-2 PRE AMP
FEED BACK
SW AMP
EQ
HI-ON
REC AMP
DO DET
RECT LPF
DO LIMIT
HPF
DO SW
DO SW AMP
AGC DET
AGC
CLIP MAIN PREEMPH
PRE AMP
KILLER AMP
ACC DET
ACC AMP
REC MAIN CONV KILLER AMP
KILLER DET
SW AMP
PB KILLER AMP
PB MAIN CONV

Y/CHROMA P.C.B

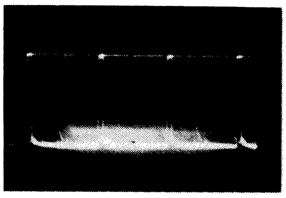
※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) MEASURED IN RECORD MODE.

Y/CHROMA WAVEFORMS

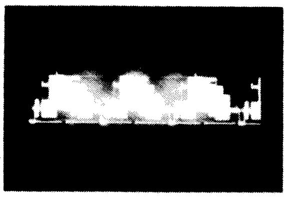
TP201 REC
50mV/20μs. div.



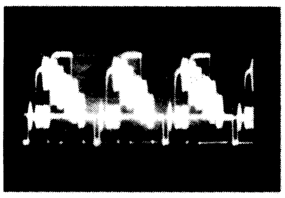
IC202 ㉗ PB
2V/20μS. div.



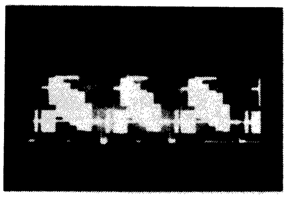
TP203 REC
1V/20μS. div.



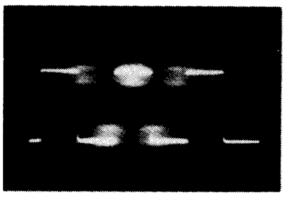
TP203 PB
0.5V/20μS. div.



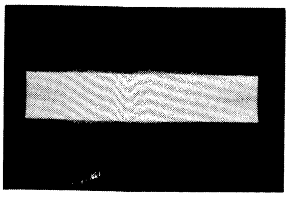
TP204 STOP
0.5V/20μS. div.



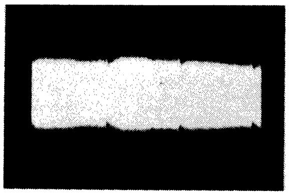
TP205 PB/REC
2V/10μS. div.



IC201 ① REC
0.5V/20μS. div.



IC201 ① PB
0.2V/5mS. div.



	Q201	Q202	Q203	Q204	Q205	Q206	Q207	Q208	Q209
B	1.6 (1.6)	2.2 (2.2)	2.3 (2.3)	0 (4.8)	0.7 (0)	0 (0.7)	0 (0.6)	2.3 (0)	1.6 (0)
C	7.7 (7.5)	6.9 (6.7)	8.3 (8.3)	2.2 (2.2)	0 (9.1)	0.3 (0)	0.3 (0)	0 (9.3)	0 (8.8)
E	0.9 (0.9)	1.6 (1.5)	4.2 (4.2)	4.2 (4.2)	0 (0)	0 (0)	0 (0)	0 (1.6)	1.0 (0)

	Q210	Q211	Q212	Q213	Q214	Q215	Q216	Q217	Q218
B	5.9 (5.2)	0 (0.7)	5.6 (5.6)	4.7 (2.6)	0.3 (0.2)	4.0 (4.0)	1.7 (1.7)	6.3 (6.2)	8.4 (8.4)
C	8.5 (8.8)	0 (0)	0 (0)	9.0 (9.1)	0 (0)	0 (0)	4.0 (4.0)	9.0 (9.0)	0 (8.9)
E	5.3 (4.5)	0 (0)	6.3 (6.3)	5.6 (5.6)	0.9 (0.7)	4.7 (4.7)	0.9 (0.9)	5.7 (8.5)	9.0 (9.0)

	Q219	Q220	Q221	Q225	Q226	Q227	Q234	Q235
B	4.5 (4.5)	6.4 (6.4)	0 (0)	0.5 (0.4)	2.0 (2.8)	1.9 (0)	2.4 (2.4)	3.7 (3.7)
C	9.0 (9.0)	9.4 (9.3)	—	3.4 (3.4)	7.5 (7.2)	8.0 (0)	3.8 (3.8)	9.0 (9.0)
E	3.8 (3.8)	6.8 (7.5)	0 (0)	0 (0)	1.9 (2.2)	1.3 (0)	2.4 (2.4)	3.1 (3.1)

IC201

15	16	17	18	19	20	21	22	23	24	25	26	27	28
0 (0.3)	0 (1.7)	0 (1.6)	0 (9.0)	9.3 (0)	7.9 (0)	0.6 (0)	0 (0)	0.6 (0)	0 (0)	0 (9.0)	0 (2.3)	0 (0)	0 (0.9)
14	13	12	11	10	9	8	7	6	5	4	3	2	1
0 (6.1)	0 (3.0)	0 (6.2)	0 (0)	0.2 (4.9)	4.3 (0)	0 (0)	1.9 (0)	0 (0)	0.9 (0)	9.2 (0)	8.8 (0)	0 (0)	5.1 (5.6)

IC202

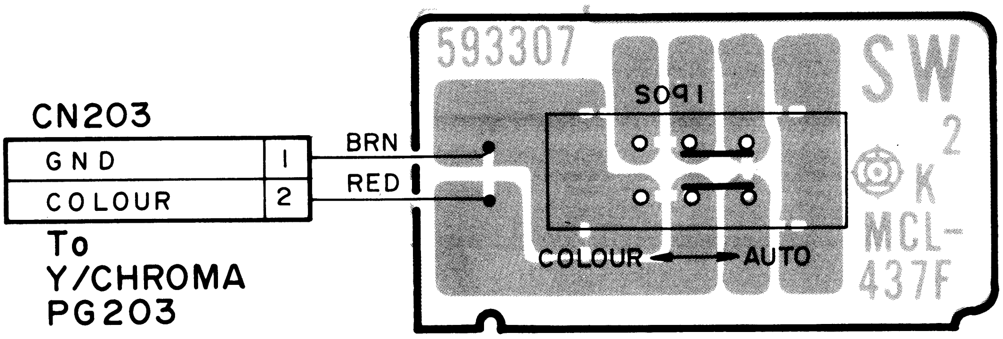
15	16	17	18	19	20	21	22	23	24	25	26	27	28
8.0 (0)	5.6 (6.2)	0.3 (0.5)	0 (0)	6.0 (5.2)	0 (0)	0 (0)	3.4 (3.4)	4.2 (4.2)	4.2 (4.2)	0 (0)	0 (0)	3.7 (3.8)	4.2 (4.8)
14	13	12	11	10	9	8	7	6	5	4	3	2	1
7.7 (8.7)	4.2 (4.3)	1.3 (0)	0 (0)	4.4 (5.8)	4.4 (5.8)	9.0 (9.2)	0 (0)	9.4 (0)	7.7 (8.6)	0 (1.4)	0.3 (0.5)	5.7 (6.2)	5.7 (0)

IC203

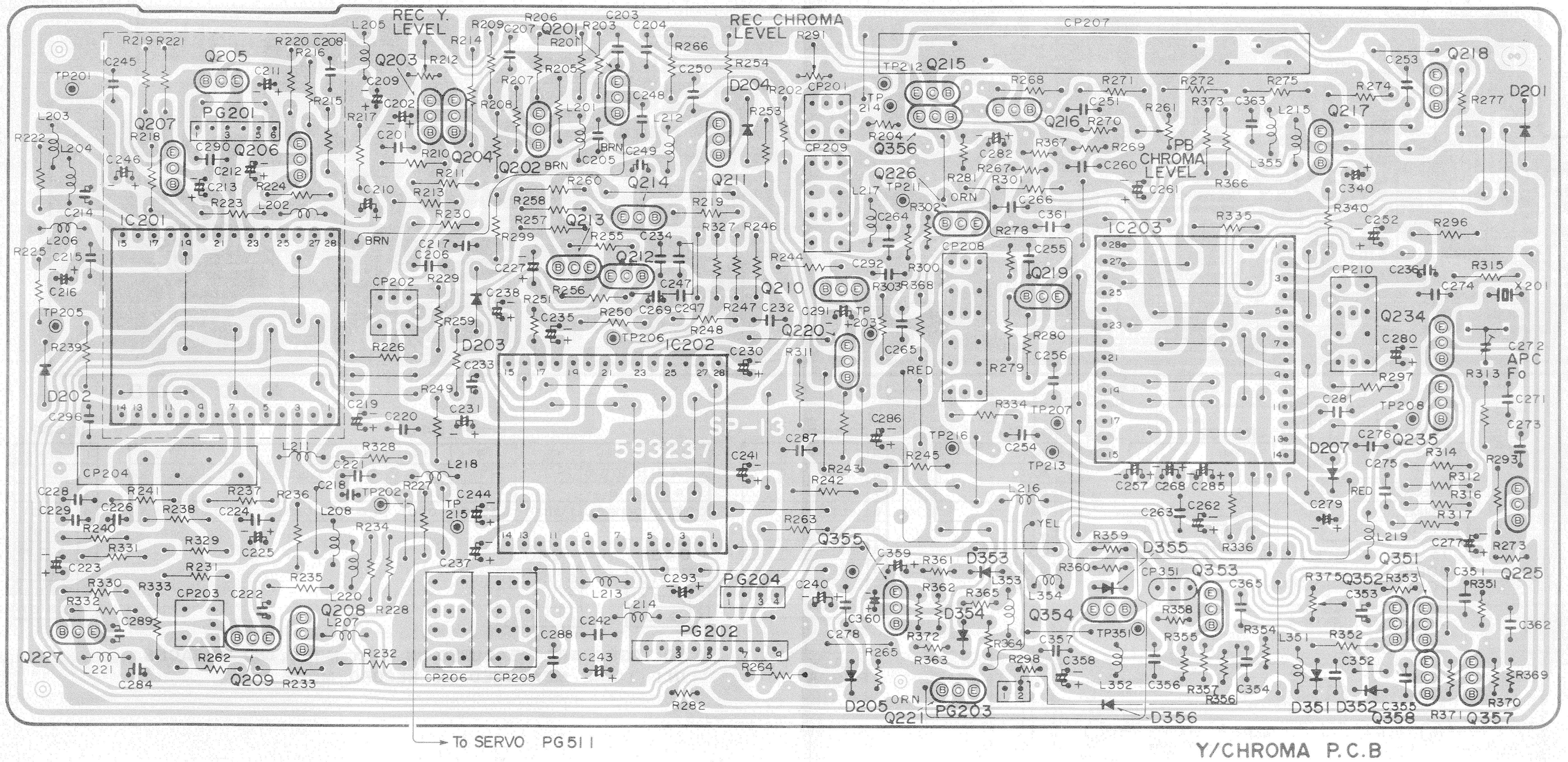
28	5.9 (5.8)	1	0.4 (0.4)
27	6.3 (6.2)	2	1.8 (1.8)
26	0.8 (1.5)	3	0 (0)
25	5.5 (5.5)	4	3.4 (3.4)
24	9.0 (7.5)	5	3.5 (3.4)
23	3.9 (3.8)	6	5.1 (6.1)
22	0 (0)	7	7.3 (0)
21	0 (0)	8	6.7 (4.3)
20	5.5 (5.3)	9	9.0 (9.0)
19	5.5 (5.4)	10	7.2 (7.2)
18	5.5 (5.5)	11	7.2 (7.2)
17	0 (0)	12	6.8 (6.8)
16	0 (0)	13	5.5 (5.5)
15	2.3 (2.3)	14	3.1 (3.1)

	Q351	Q352	Q353	Q354	Q355	Q356	Q357	Q358
B	4.0 (3.6)	5.0 (4.8)	1.1 (1.1)	7.0 (6.8)	0.1 (0)	8.0 (7.9)	0.8 (0.7)	0.8 (0.7)
C	5.0 (4.8)	7.6 (7.4)	5.1 (4.9)	0 (0)	8.0 (8.1)	0 (0)	0.8 (0.7)	0 (0)
E	3.3 (3.1)	5.5 (4.3)	0.6 (0.5)	0 (7.4)	0 (0)	4.7 (4.7)	0 (0)	0 (0)

※VOLTAGES ARE MEASURED IN PLAY MODE, AND
VOLTAGES IN ( ) MEASURED IN RECORD MODE.



REAR SWITCH P.C.B


REC Y LEVEL
REC CHROMA LEVEL
PB CHROMA LEVEL
APC Fo
IC201
IC202
IC203
SP-13
593237
PG201
PG202
PG203
PG204
CP202
CP203
CP204
CP205
CP206
CP207
CP208
CP209
CP210
BRN
ORN
RED
YEL
To SERVO PG511

Y/CHROMA P.C.B

PG201

1	CH-1 REC
2	CH-1 PB
3	GND
4	GND
5	CH-2 PB
6	CH-2 REC

To
VIDEO
HEAD
CN014

PG202

1	VIDEO
2	——
3	PB9V
4	——
5	REC START
6	SW25Hz
7	REC 9V
8	GND
9	9V

To
SLOW PLAY/
JACK
CND605

PG203

1	GND
2	COLOUR

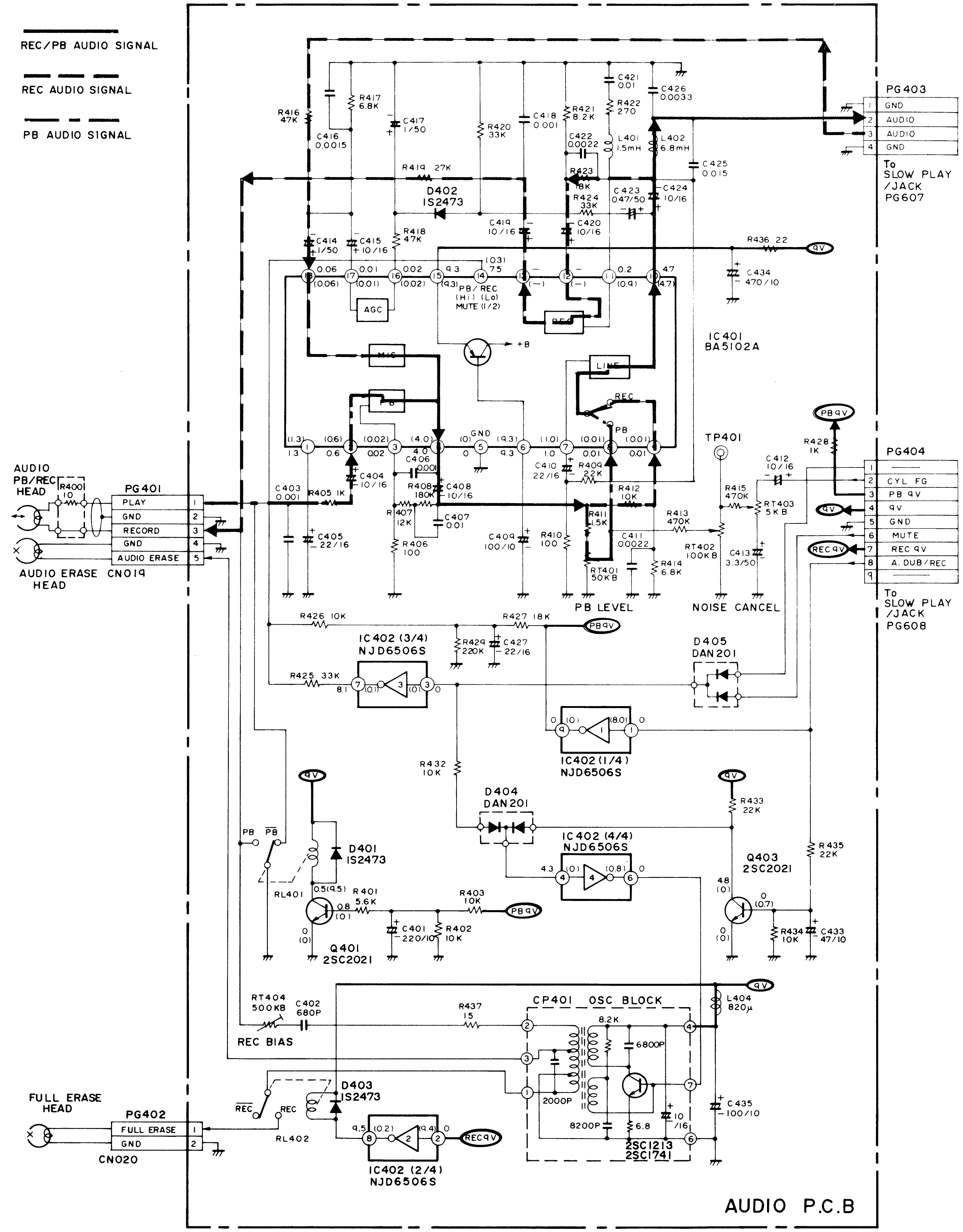
To
REAR
SWITCH
CN203

PG204

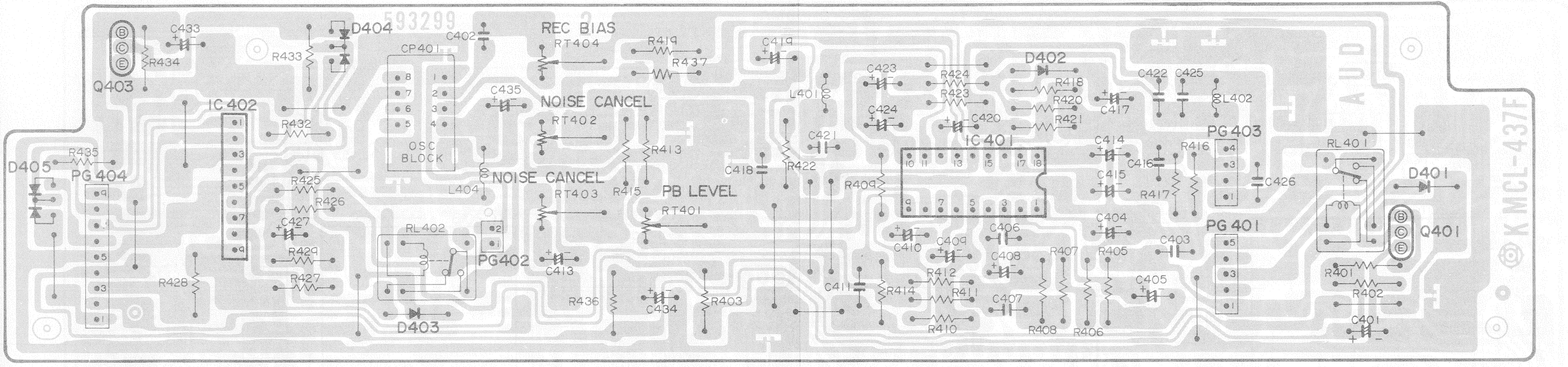
1	MONITOR CUT
2	SYNC
3	GND
4	VIDEO

To
SLOW PLAY/
JACK
PG602

AUDIO (Except for UK model)


REC/PB AUDIO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
AUDIO PB/REC HEAD
R400 10
PG401
PLAY
GND
RECORD
GND
AUDIO ERASE
AUDIO ERASE HEAD
CN019
C416 0.0015
R416 47K
R417 6.8K
C417 1/50
R420 33K
C418 0.001
R421 8.2K
C421 0.01
R422 270
C426 0.0033
C422 0.0022
L401 1.5mH
L402 6.8mH
C425 0.015
R419 27K
D402 1S2473
R423 18K
R424 33K
C423 0.47/50
C424 10/16
C419 10/16
C420 10/16
C414 1/50
C415 10/16
R418 47K
R436 22
9V
C434 470/10
AGC
PB/REC (Hi) (Lo)
MUTE (1/2)
+B
MIC
PB
LINE
REC
PB
IC401 BA5102A
GND
C403 0.001
R405 1K
C404 10/16
C406 0.001
R408 180K
C408 10/16
R407 12K
C407 0.01
C405 22/16
R406 100
C409 100/10
R410 100
C410 22/16
R409 22K
R412 10K
R411 1.5K
C411 0.0022
R413 470K
RT401 50KB
R414 6.8K
RT402 100KB
PB LEVEL
NOISE CANCEL
TP401
R415 470K
RT403 5KB
C412 10/16
C413 3.3/50
R428 1K
PB9V
PG404
CYL FG
PB 9V
9V
GND
MUTE
REC 9V
A. DUB/REC
To SLOW PLAY /JACK PG608
PG403
GND
AUDIO
AUDIO
GND
To SLOW PLAY /JACK PG607
R426 10K
R427 18K
IC402 (3/4) NJD6506S
R429 220K
C427 22/16
D405 DAN201
R425 33K
IC402 (1/4) NJD6506S
R432 10K
D404 DAN201
IC402 (4/4) NJD6506S
R433 22K
Q403 2SC2021
R435 22K
R434 10K
C433 47/10
PB
PB
D401 1S2473
RL401
R401 5.6K
R403 10K
C401 220/10
R402 10K
Q401 2SC2021
RT404 500KB
C402 680P
REC BIAS
R437 15
CP401 OSC BLOCK
8.2K
6800P
2000P
8200P
6.8
10/16
2SC1213
2SC1741
L404 820µ
C435 100/10
FULL ERASE HEAD
PG402
FULL ERASE
GND
CN020
REC
REC
RL402
D403 1S2473
IC402 (2/4) NJD6506S
REC9V
AUDIO P.C.B

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.


593299
Q403
C433
R434
D404
R433
C402
CP401
OSC BLOCK
REC BIAS
RT404
R419
R437
C419
IC402
R432
C435
NOISE CANCEL
RT402
L401
C423
R424
R423
C424
C420
D402
R418
R420
R421
C417
C422
C425
L402
AUD
K MCL-437F
D405
R435
PG404
R425
R426
C427
R429
R427
R428
L404
NOISE CANCEL
RT403
R415
R413
PB LEVEL
RT401
C418
R422
C421
R409
IC401
C414
C415
C416
R416
R417
PG403
C426
RL401
D401
Q401
RL402
PG402
C413
R436
C434
R403
C411
R414
R412
R411
R410
C410
C409
C406
C408
C407
R407
R405
R408
R406
C404
C403
C405
PG401
R401
R402
C401
D403

AUDIO P.C.B

PG401

5	AUDIO ERASE
4	GND
3	RECORD
2	GND
1	PLAY

To
AUDIO
/CONTROL
HEAD
CN019

PG402

2	GND
1	FULL ERASE

To
FULL ERASE
HEAD
CN020

PG403

4	GND
3	AUDIO
2	AUDIO
1	GND

To
SLOW PLAY
/JACK
PG607

PG404

9	——
8	A. DUB/REC
7	REC 9V
6	MUTE
5	GND
4	9V
3	PB 9V
2	CYL FG
1	——

To
SLOW PLAY
/JACK
PG608

IC401

10	11	12	13	14	15	16	17	18
4.7(4.7)	0.2(0.9)	— (—)	— (—)	7.5 (0.3)	9.3(9.3)	0.02(0.02)	0.01(0.01)	0.06(0.06)
9	8	7	6	5	4	3	2	1
0.01(0.01)	0.01(0.01)	1.0(1.0)	9.3(9.3)	0(0)	4.0(4.0)	0.02(0.02)	0.6(0.6)	1.3(1.3)

Q401

B	0.8(0)
C	0.5(9.5)
E	0(0)

Q403

B	0(0.7)
C	4.8(0)
E	0(0)

IC402

1	0(8.0)
2	0(9.4)
3	0(0)
4	4.3(0)
5	0(0)
6	0(0.8)
7	8.1(0.1)
8	9.5(0.2)
9	8.8(0)

※ VOLTAGES ARE MEASURED IN PLAY MODE, AND VOLTAGES IN ( ) ARE MEASURED IN RECORD MODE.

REPLACEMENT PARTS LIST

ELECTRICAL PARTS (Except for UK model)

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C101	0239270	CAPACITOR 100P
C272	5058102	VARIABLE CAPACITOR
C530	0256383	TANTALUM ELECTROLYTIC 4.7MF 16V
C541	0256383	TANTALUM ELECTROLYTIC 4.7MF 16V
		RESISTORS
RT401	5007619	SEMI VARIABLE RESISTOR 50KOHM
RT402	5007621	SEMI VARIABLE RESISTOR 100KOHM
RT403	5007616	SEMI VARIABLE RESISTOR 5KOHM
RT404	5007623	SEMI VARIABLE RESISTOR 500KOHM
RT501	5007191	SEMI VARIABLE RESISTOR 220KOHM
RT503	5007225	SEMI VARIABLE RESISTOR 22KOHM
RT506-507	5007188	SEMI VARIABLE RESISTOR 47KOHM
RT508	5007186	SEMI VARIABLE RESISTOR 10KOHM
RT509	5007226	SEMI VARIABLE RESISTOR 47KOHM
RT510-511	5007227	SEMI VARIABLE RESISTOR 100KOHM
RT513	5007226	SEMI VARIABLE RESISTOR 47KOHM
RT514-515	5007223	SEMI VARIABLE RESISTOR 4.7KOHM
RT516	5007189	SEMI VARIABLE RESISTOR 100KOHM
RT517	5007192	SEMI VARIABLE RESISTOR 470KOHM
RT518	5007189	SEMI VARIABLE RESISTOR 100KOHM
RT901	5007319	SEMI VARIABLE RESISTOR 50KOHM
RV1601	5000184	VARIABLE RESISTOR
RV1602	5000184	VARIABLE RESISTOR
R152	0111167	OXIDEMETAL FILM RESISTOR 3.3KOHM+-5 % 1/2
R153	0111153	METAL OXIDE 1KOHM 1W
R1904	0170409	FUSE RESISTOR 22OHM+-5% 1W
R212	5007183	SEMI VARIABLE RESISTOR 1KOHM
R261	5007184	SEMI VARIABLE RESISTOR 2.2KOHM
R291	5007185	SEMI VARIABLE RESISTOR 4.7KOHM
R375	5007222	SEMI VARIABLE RESISTOR 22KOHM
R436	0170461	FUSE RESISTOR 22OHM+-5% 1/4W
R485	0149705	METAL FILM RESISTOR 470 OHM
R993	0249794	POSITIVE THERMISTOR
		SEMI-CONDUCTORS
D101A-L	5380721	LED SLR-54UR4
D106	5330573	DIODE 1S2473
D107	5330573	DIODE 1S2473
D113-115	5330573	DIODE 1S2473
D114	5330573	DIODE 1S2473
D117-118	5330573	DIODE 1S2473
D119	5331511	DIODE DAN201
D121	5330101	RECTIFIER SILICON V06C 15K
D123-129	5330573	DIODE 1S2473
D128	5331511	DIODE DAN201
D131A-131B	5330131	DIODE 1S2076
D131C-131E	5330131	DIODE 1S2076
D131F	5330131	DIODE 1S2076
D131G-131L	5330131	DIODE 1S2076
D131I	5330131	DIODE 1S2076
D131L	5330131	DIODE 1S2076
D1401	5380901	DIODE NJL6144L
D1402-1403	5331511	DIODE DAN201
D141-142	5331511	DIODE DAN201
D143	5331511	DIODE DAN201
D145	5331511	DIODE DAN201
D151	5330831	DIODE S5V810
D152-158	5330101	RECTIFIER SILICON V06C 15K
D1601	5331592	DIODE 1SS133
D1604-1608	5331592	DIODE 1SS133
D1610-1615	5331592	DIODE 1SS133
D1617	5331592	DIODE 1SS133
D1618	5331511	DIODE DAN201
D1619	5331592	DIODE 1SS133
D1661	5331592	DIODE 1SS133
D1662	5330131	DIODE 1S2076
D2001	5331592	DIODE 1SS133
D2002-2003	5330573	DIODE 1S2473
D2005-2007	5330573	DIODE 1S2473
D201-204	5330131	DIODE 1S2076
D205	5330131	DIODE 1S2076
D207	5330131	DIODE 1S2076
D3001	5331511	DIODE DAN201
D3002-3003	5330573	DIODE 1S2473
D3006-3007	5330573	DIODE 1S2473
D3050-3053	5380721	LED SLR-54UR4
D3054	5380731	LED SLP-260C
D3055-3056	5380721	LED SLR-54UR4
D3057-3058	5380271	LED GL-9PR2
D351-355	5330131	DIODE 1S2076
D401-403	5330573	DIODE 1S2473
D404	5331511	DIODE DAN201
D501	5330131	DIODE 1S2076
D502	5330131	DIODE 1S2076
D503	5331511	DIODE DAN201
D504-506	5330131	DIODE 1S2076
D508	5331511	DIODE DAN201
D511	5330131	DIODE 1S2076
D513-515	5331511	DIODE DAN201
D516	5330131	DIODE 1S2076
D521	5330131	DIODE 1S2076
D531-532	5331511	DIODE DAN201
D550-551	5330131	DIODE 1S2076
D601-603	5331592	DIODE 1SS133
D620	5330131	DIODE 1S2076
D621	5330131	DIODE 1S2076
D623	5331592	DIODE 1SS133
D626	5330131	DIODE 1S2076
D711A-711L	5330131	DIODE 1S2076

SYMBOL-NO	P-NO	DESCRIPTION
		SEMI-CONDUCTORS
D712A-712L	5330131	DIODE 1S2076
D723	5330131	DIODE 1S2076
D728-729	5330573	DIODE 1S2473
D731	5331511	DIODE DAN201
D733	5330573	DIODE 1S2473
D901-903	5331592	DIODE 1SS133
D904-905	5330131	DIODE 1S2076
D906	5331592	DIODE 1SS133
D907	5331511	DIODE DAN201
D908	5331592	DIODE 1SS133
D909	5331511	DIODE DAN201
D911-915	5331592	DIODE 1SS133
D916	5331511	DIODE DAN201
D918	5331511	DIODE DAN201
D919	5331592	DIODE 1SS133
D921	5331511	DIODE DAN201
D922-925	5331592	DIODE 1SS133
D926	5330101	RECTIFIER SILICON V06C 15K
D927	5331592	DIODE 1SS133
D951-952	5331592	DIODE 1SS133
IC101	5365855	IC HD38800A57
IC103	5352511	IC TA78L010P
IC1401	5350251	IC HA1406
IC1402	5355231	IC M50127AP
IC1403	5359631	IC MPD4081
IC1404	5365441	IC MPD4069C
IC1405	5369101	IC MPD4514BC
IC1406	5369101	IC MPD4514BC
IC1407	5375921	IC TA4350
IC141	5391031	HALL ELEMENT DN6838
IC1901	5350571	IC UPC14315H
IC2001	5369181	IC M5218L
IC2002	5358161	IC TA4168
IC2003	5365845	IC HD38750A53
IC201	5358611	MODULE HT4207
IC202	5358621	MODULE HT4208
IC203	5375621	MODULE HT4219
IC401	5352631	IC BA5102
IC402	5355241	IC NJD6506S
IC481	5352111	IC HA11714
IC482	5352121	IC HA11715
IC502	5359842	IC HA11711
IC503-504	5352101	IC HA11713
IC505	5365601	IC MPD4013C
IC520-522	5355241	IC NJD6506S
IC601	5375851	IC TA4345
IC602	5358681	IC TA4301
IC603	5350251	IC HA1406
IC604	5352611	IC BA847
IC605	5368001	IC MSA133RS
IC701	5352511	IC TA78L010P
IC721	5351722	IC MPC1363C
IC901	5353461	IC STK5720
IC902-903	5353462	IC STK5730
IC904	5355291	IC M5231L
IC905	5365856	IC HD38800A50
IC906-907	5369171	IC M54543L
IC908	5355241	IC NJD6506S
IC909	5375931	IC TA4349
Q101-105	5321663	TRANSISTOR 2SC2021R/S
Q1401	5320593	TRANSISTOR 2SA673C
Q1402	5321501	TRANSISTOR 2SK68
Q1403	5321663	TRANSISTOR 2SC2021R/S
Q141-142	5380131	PHOTO TRANSISTOR
Q1601-1602	5321662	TRANSISTOR 2SC2021S
Q1604	5321662	TRANSISTOR 2SC2021S
Q1661	5321662	TRANSISTOR 2SC2021S
Q1662	5320613	TRANSISTOR 2SC1213C
Q1663	5320603	TRANSISTOR SILICON 2SA673A-C 80MHZ 400MW
Q1664	5321662	TRANSISTOR 2SC2021S
Q1665-1666	5321662	TRANSISTOR 2SC2021S
Q2005	5321662	TRANSISTOR 2SC2021S
Q201-211	5321662	TRANSISTOR 2SC2021S
Q212	5320593	TRANSISTOR 2SA673C
Q213	5321662	TRANSISTOR 2SC2021S
Q214-215	5320593	TRANSISTOR 2SA673C
Q216	5573511	TRANSISTOR SILICON 2SC535 700M
Q217	5321662	TRANSISTOR 2SC2021S
Q219-221	5321662	TRANSISTOR 2SC2021S
Q225-227	5321662	TRANSISTOR 2SC2021S
Q234-235	5321662	TRANSISTOR 2SC2021S
Q351-353	5321662	TRANSISTOR 2SC2021S
Q355	5321662	TRANSISTOR 2SC2021S
Q356	5320593	TRANSISTOR 2SA673C
Q357-358	5321662	TRANSISTOR 2SC2021S
Q401	5321663	TRANSISTOR 2SC2021R/S
Q403	5321663	TRANSISTOR 2SC2021R/S
Q501	5321252	TRANSISTOR 2SA844D
Q502	5323013	TRANSISTOR 2SC2603EF
Q503-504	5320593	TRANSISTOR 2SA673C
Q507	5323013	TRANSISTOR 2SC2603EF
Q513	5320613	TRANSISTOR 2SC1213C
Q516	5323013	TRANSISTOR 2SC2603EF
Q522	5323013	TRANSISTOR 2SC2603EF
Q524-525	5323013	TRANSISTOR 2SC2603EF
Q620	5321252	TRANSISTOR 2SA844D
Q621-622	5321662	TRANSISTOR 2SC2021S
Q680	5321662	TRANSISTOR 2SC2021S
Q701-703	5320593	TRANSISTOR 2SA673C

SYMBOL-NO	P-NO	DESCRIPTION
	SEMI-CONDUCTORS	
Q704	5320623	TRANSISTOR SILICON 2SC1213A-C 80MHZ 400M
Q705	5320593	TRANSISTOR 2SA673C
Q722-723	5321661	TRANSISTOR 2SC2021R
Q724	5321252	TRANSISTOR 2SA844D
Q733-736	5321663	TRANSISTOR 2SC2021R/S
Q904-906	5321663	TRANSISTOR 2SC2021R/S
Q908	5321663	TRANSISTOR 2SC2021R/S
Q909	5321301	TRANSISTOR 2SC1061
Q910	5322732	TRANSISTOR 2SA952-ML2
Q918	5321252	TRANSISTOR 2SA844D
Q919-922	5321663	TRANSISTOR 2SC2021R/S
RT1601	5007187	SEMI VARIABLE RESISTOR 22KOHM
RT681	5007187	SEMI VARIABLE RESISTOR 22KOHM
ZD101	5350611	IC UPC574J
ZD103	5330392	ZENNER DIODE SILICON HZ6B 1MHZ 400MW
ZD105	5330313	ZENNER DIODE HZ-7C
ZD1401	5330562	ZENNER DIODE HZ-16-2
ZD1402	5330551	ZENNER DIODE HZ11A
ZD2001	5330393	ZENNER DIODE SILICON HZ6C 1MHZ
ZD2002	5330325	DIODE HZ9A2
	COILS	
CP201	5161952	LOW PASS FILTER
CP202	5161954	HIGH PASS FILTER
CP203	5123833	COIL
CP204	5785191	DELAY LINE
CP205	5161985	LOW PASS FILTER
CP206	5161981	DELAY LINE
CP207	5785141	DELAY LINE
CP208	5161902	BAND PASS FILTER
CP209	5161971	LOW PASS FILTER
CP210	5161974	BAND PASS FILTER
CP351	5160431	CERAMIC FILTER
L1401	5150578	CHOKE COIL
L201	5152079	CHOKE COIL 22UH+-10%
L202	5152092	PEAKING COIL 220MICROH
L203	5152082	CHOKE COIL 39MICROH
L204	5152086	CHOKE COIL 82MICROH
L205	5152087	PEAKING COIL 100MICROH
L206	5152096	CHOKE COIL 470MICROH
L207	5152087	PEAKING COIL 100MICROH
L208	5152084	CHOKE COIL 56MICROH
L211	5152092	PEAKING COIL 220MICROH
L212	5152082	CHOKE COIL 39MICROH
L213	5152083	CHOKE COIL
L214	5152098	CHOKE COIL 680MICROH
L215-216	5152092	PEAKING COIL 220MICROH
L217	5152099	CHOKE COIL 820MICO H+-10%
L218	5152089	PEAKING COIL 150MICROH
L219	5152092	PEAKING COIL 220MICROH

SYMBOL-NO	P-NO	DESCRIPTION
L220	5152074	CHOKE 10MICROH
L221	5152082	CHOKE COIL 39MICROH
L351	5152068	CHOKE COIL
L352	5150574	CHOKE COIL
L353	5152097	CHOKE COIL 560MICRO H
L354	5150366	CHOKE COIL 15 MH
L355	5152079	CHOKE COIL 22UH+-10%
		CRYSTALS
X201	5780534	CRYSTAL 4.435572MHZ
X501	5780492	CRYSTAL 32KHZ
		MISCELLANEOUS
	5679901	JACK PLATE
	5720174	FUSE 630MA
	5722131	1P FUSE HOLDER
	5722211	FUSE HOLDER
	5841772	CABULE
	6746881	FUSE COVER
	6755481	IC HOLDER
	6863631	I.R RECEIVER CAP
	6864241	CAP
	6865391	SWITCH CAP
	6865851	GUIDE PIECE
	6865991	HOLDER
	7373262	CAP
	7375642	HOLDER-JACK PLATE
	7485491	SHIELD PANEL-RMR
	7758881	INSULATION SHEAT-FMR
BS 1-502	5060037	RESISTOR PACK
CE01401	5780671	CERAMIC OSCILLATOR 455 KHZ
CP401	5260892	OSC BLOCK
DG101	5310751	TIMER DISPLAY
FU152	5721064	FUSE 2.5A
FU153	5721061	FUSE 1.6A
J1251	5653441	6P DIN SOCKET
PV701	5008674	PRESET VARIABLE RESISTOR
RL401	5641413	RELAY
RL402	5641413	RELAY
S091	5623573	SWITCH
S101-102	5633791	SWITCH
S104-109	5633734	SWITCH
S112	5622191	SLIDE SWITCH
S113	5633734	SWITCH
S121A-L	5633783	SWITCH (CH)
S141-142	5633362	PUSH SWITCH
S143	5625061	SWITCH
S151	5602091	MAIN SWITCH
S3001	5633792	PUSH SWITCH
S3002	5633791	SWITCH
S3004-3014	5633961	PUSH SWITCH
S601	5612483	SWITCH
S602	5612481	SWITCH
S702	5633693	SWITCH
S703	5621211	SLIDE SWITCH

REPLACEMENT PARTS LIST

ELECTRICAL PARTS (For UK model)

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C272	5058102	VARIABLE CAPACITOR
C530	0256383	TANTALUM ELECTROLYTIC 4.7MF 16V
C541	0256383	TANTALUM ELECTROLYTIC 4.7MF 16V
		RESISTORS
RT401	5007188	SEMI VARIABLE RESISTOR 47KOHM
RT402	5007189	SEMI VARIABLE RESISTOR 100KOHM
RT403	5007185	SEMI VARIABLE RESISTOR 4.7KOHM
RT404	5007192	SEMI VARIABLE RESISTOR 470KOHM
RT405-406	5007186	SEMI VARIABLE RESISTOR 10KOHM
RT501	5007191	SEMI VARIABLE RESISTOR 220KOHM
RT503	5007225	SEMI VARIABLE RESISTOR 22KOHM
RT506-507	5007188	SEMI VARIABLE RESISTOR 47KOHM
RT508	5007186	SEMI VARIABLE RESISTOR 10KOHM
RT509	5007226	SEMI VARIABLE RESISTOR 47KOHM
RT510-511	5007227	SEMI VARIABLE RESISTOR 100KOHM
RT513	5007226	SEMI VARIABLE RESISTOR 47KOHM
RT514-515	5007224	SEMI VARIABLE RESISTOR 10KOHM
RT516	5007189	SEMI VARIABLE RESISTOR 100KOHM
RT517	5007192	SEMI VARIABLE RESISTOR 470KOHM
RT518	5007189	SEMI VARIABLE RESISTOR 100KOHM
RT901	5007319	SEMI VARIABLE RESISTOR 50KOHM
RV1601	5000184	VARIABLE RESISTOR
RV1602	5000184	VARIABLE RESISTOR
R152	0111167	OXIDEMETAL FILM RESISTOR 3.3KOHM+-5 % 1/2
R153	0111153	METAL OXIDE 1KOHM 1W
R212	5007183	SEMI VARIABLE RESISTOR 1KOHM
R261	5007184	SEMI VARIABLE RESISTOR 2.2KOHM
R291	5007185	SEMI VARIABLE RESISTOR 4.7KOHM
R435	0170472	FUSE RESISTOR 3.3OHM+-5% 1/4W
R485	0149705	METAL FILM RESISTOR 470 OHM
R993	0249794	POSITIVE THERMISTOR
		SEMI-CONDUCTORS
D101A-L	5380721	LED SLR-54UR4
D101C-131J	5380721	LED SLR-54UR4
D106	5330573	DIODE 1S2473
D108	5330573	DIODE 1S2473
D109	5330573	DIODE 1S2473
D113	5331511	DIODE DAN201
		SEMI-CONDUCTORS
D115	5330573	DIODE 1S2473
D117	5330573	DIODE 1S2473
D119	5331511	DIODE DAN201
D124-127	5330573	DIODE 1S2473
D128	5330573	DIODE 1S2473
D129	5331592	DIODE 1SS133
D131A-131B	5330131	DIODE 1S2076
D131C-131F	5380721	LED SLR-54UR4
D131H-131J	5380721	LED SLR-54UR4
D131L	5330131	DIODE 1S2076
D1401	5380901	DIODE NJL6144L
D1402-1403	5331511	DIODE DAN201
D141-142	5331511	DIODE DAN201
D143	5331511	DIODE DAN201
D151	5330831	DIODE S5VB10
D152-158	5330101	RECTIFIER SILICON V06C 15K
D1601	5331592	DIODE 1SS133
D1604-1608	5331592	DIODE 1SS133
D1610-1615	5331592	DIODE 1SS133
D1617	5331592	DIODE 1SS133
D1618	5331511	DIODE DAN201
D1619	5331592	DIODE 1SS133
D1792-1795	5330573	DIODE 1S2473
D1796	5330101	RECTIFIER SILICON V06C 15K
D1797-1798	5330573	DIODE 1S2473
D2001	5331592	DIODE 1SS133
D2002-2003	5330573	DIODE 1S2473
D2005-2007	5330573	DIODE 1S2473
D202-204	5330131	DIODE 1S2076
D205	5330131	DIODE 1S2076
D207	5330131	DIODE 1S2076
D3001	5331511	DIODE DAN201
D3002-3003	5330573	DIODE 1S2473
D3006-3007	5330573	DIODE 1S2473
D3050-3053	5380721	LED. SLR-54UR4
D3054	5380731	LED SLP-260C
D3055	5380721	LED SLR-54UR4
D3057-3058	5380271	LED GL-9PR2
D401	5330573	DIODE 1S2473
D402	5331511	DIODE DAN201
D403-405	5330573	DIODE 1S2473
D406-407	5331511	DIODE DAN201
D412	5330573	DIODE 1S2473
D415	5330573	DIODE 1S2473
D501	5330131	DIODE 1S2076
D502	5330131	DIODE 1S2076
D503	5331511	DIODE DAN201
D504-506	5330131	DIODE 1S2076
D508	5331511	DIODE DAN201
D510-511	5330131	DIODE 1S2076
D513-515	5331511	DIODE DAN201
D516	5330131	DIODE 1S2076
D521	5330131	DIODE 1S2076
D531-532	5331511	DIODE DAN201
D550-551	5330131	DIODE 1S2076
D601-603	5331592	DIODE 1SS133

SYMBOL-NO	P-NO	DESCRIPTION
		SEMI-CONDUCTORS
D623	5331592	DIODE 1SS133
D625	5330131	DIODE 1S2076
D626	5330131	DIODE 1S2076
D711A-711L	5330131	DIODE 1S2076
D712A-712L	5330131	DIODE 1S2076
D723	5330131	DIODE 1S2076
D727	5330573	DIODE 1S2473
D731	5331511	DIODE DAN201
D733	5330573	DIODE 1S2473
D901	5331592	DIODE 1SS133
D902-903	5331592	DIODE 1SS133
D904-905	5330131	DIODE 1S2076
D906	5331592	DIODE 1SS133
D907	5331511	DIODE DAN201
D908	5331592	DIODE 1SS133
D909	5331511	DIODE DAN201
D911-915	5331592	DIODE 1SS133
D916	5331511	DIODE DAN201
D918	5331511	DIODE DAN201
D919	5331592	DIODE 1SS133
D921	5331511	DIODE DAN201
D922-925	5331592	DIODE 1SS133
D926	5330101	RECTIFIER SILICON V06C 15K
D927	5331592	DIODE 1SS133
D951-952	5331592	DIODE 1SS133
IC101	5365355	IC HD38800A57
IC1401	5350251	IC HA1406
IC1402	5355231	IC M50127AP
IC1403	5359631	IC MPD4081
IC1404	5365441	IC MPD4069C
IC1405	5369101	IC MPD45148C
IC1406	5369101	IC MPD45148C
IC1407	5375921	IC TA4350
IC141	5391031	HALL ELEMENT DN6838
IC1792	5352511	IC TA78L010P
IC1793	5352511	IC TA78L010P
IC2001	5369181	IC M5218L
IC2002	5358161	IC TA4168
IC2003	5365845	IC HD38750A53
IC201	5358611	MODULE HT4207
IC202	5358621	MODULE HT4208
IC203	5375621	MODULE HT4219
IC401	5350251	IC HA1406
IC402	5359901	IC UPD4066C
IC403	5352691	IC TA7629
IC481	5352111	IC HA11714
IC482	5352121	IC HA11715
IC502	5359842	IC HA11711
IC503-504	5352101	IC HA11713
IC505	5365601	IC MPD4013C
IC520-522	5355241	IC NJD6506S
IC601	5375851	IC TA4345
IC602	5358681	IC TA4301
IC603	5350251	IC HA1406
IC604	5352611	IC BA847
IC721	5351722	IC MPC1363C
IC901	5353461	IC STK5720
IC902-903	5353462	IC STK5730
IC904	5355291	IC M5231L
IC905	5365856	IC HD38800A50
IC906-907	5369171	IC M54543L
IC908	5355241	IC NJD6506S
IC909	5375931	IC TA4349
L401	5162121	LC FILTER BLOCK
L402	5152099	CHOKE COIL 820MICO H+-10%
L403	5260215	TRAP COIL 33HH
L404	5150366	CHOKE COIL 15 MH
L406	5150573	CHOKE COIL
Q101-105	5321663	TRANSISTOR 2SC2021R/S
Q1401	5320593	TRANSISTOR 2SA673C
Q1402	5321501	TRANSISTOR 2SK68-6
Q1403	5321463	TRANSISTOR 2SC2021R/S
Q141-142	5380131	PHOTO TRANSISTOR
Q1601-1602	5321652	TRANSISTOR 2SC2021S
Q1604	5321662	TRANSISTOR 2SC2021S
Q1665-1666	5321662	TRANSISTOR 2SC2021S
Q1792	5320593	TRANSISTOR 2SA673C
Q1798	5321663	TRANSISTOR 2SC2021R/S
Q2005	5321662	TRANSISTOR 2SC2021S
Q201-211	5321662	TRANSISTOR 2SC2021S
Q212	5320593	TRANSISTOR 2SA673C
Q213	5321662	TRANSISTOR 2SC2021S
Q214-215	5320593	TRANSISTOR 2SA673C
Q216	0573511	TRANSISTOR SILICON 2SC535 700M
Q217	5321662	TRANSISTOR 2SC2021S
Q219-220	5321662	TRANSISTOR 2SC2021S
Q225-227	5321662	TRANSISTOR 2SC2021S
Q234-235	5321662	TRANSISTOR 2SC2021S
Q401-408	5321662	TRANSISTOR 2SC2021S
Q409-410	5321662	TRANSISTOR 2SC2021S
Q412-414	5321662	TRANSISTOR 2SC2021S
Q420	5321662	TRANSISTOR 2SC2021S
Q501	5321252	TRANSISTOR 2SA844D
Q502	5323013	TRANSISTOR 2SC2603EF
Q503-504	5320593	TRANSISTOR 2SA673C
Q507	5323013	TRANSISTOR 2SC2603EF
Q513	5320613	TRANSISTOR 2SC1213C
Q516	5323013	TRANSISTOR 2SC2603EF
Q522	5323013	TRANSISTOR 2SC2603EF
Q524-525	5323013	TRANSISTOR 2SC2603EF

SYMBOL-NO	P-NO	DESCRIPTION
		SEMI-CONDUCTORS
Q620	5321252	TRANSISTOR 2SA844D
Q621-622	5321662	TRANSISTOR 2SC2021S
Q680	5321662	TRANSISTOR 2SC2021S
Q701-703	5322451	TRANSISTOR 2SB642R
Q704	5320623	TRANSISTOR SILICON 2SC1213A-C 80MHZ 400M
Q705	5320593	TRANSISTOR 2SA673C
Q722-723	5321661	TRANSISTOR 2SC2021R
Q724	5321252	TRANSISTOR 2SA844D
Q733-736	5321663	TRANSISTOR 2SC2021R/S
Q904-906	5321663	TRANSISTOR 2SC2021R/S
Q908	5321663	TRANSISTOR 2SC2021R/S
Q909	5321301	TRANSISTOR 2SC1061
Q910	5322732	TRANSISTOR 2SA952-ML2
Q918	5321252	TRANSISTOR 2SA844D
Q919-922	5321663	TRANSISTOR 2SC2021R/S
RT1601	5007187	SEMI VARIABLE RESISTOR 22KOHM
RT681	5007187	SEMI VARIABLE RESISTOR 22KOHM
ZD103	5330392	ZENNER DIODE SILICON HZ6B 1MHZ 400MW
ZD105	5330313	ZENNER DIODE HZ-7C
ZD1401	5330562	ZENNER DIODE HZ-16-2
ZD1402	5330551	ZENNER DIODE HZ11A
ZD1796	5330553	DIODE HZ11C
ZD1797	5330552	ZENNER DIODE HZ11B
ZD2001	5330393	ZENNER DIODE SILICON HZ6C 1MHZ
ZD2002	5330325	DIODE HZ9A2
ZD701	5350611	IC UPC574J
		COILS
CP201	5161952	LOW PASS FILTER
CP202	5161954	HIGH PASS FILTER
CP203	5123833	COIL
CP204	5785191	DELAY LINE
CP205	5161985	LOW PASS FILTER
CP206	5161981	DELAY LINE
CP207	5785141	DELAY LINE
CP208	5161902	BAND PASS FILTER
CP209	5161971	LOW PASS FILTER
CP210	5161974	BAND PASS FILTER
L1401	5150578	CHOKE COIL
L201	5152079	CHOKE COIL 22UH+-10%
L202	5152092	PEAKING COIL 220MICROH
L203	5152082	CHOKE COIL 39MICROH
L204	5152086	CHOKE COIL 82MICROH
L205	5152087	PEAKING COIL 100MICROH
L206	5152096	CHOKE COIL 470MICROH
L207	5152087	PEAKING COIL 100MICROH
L208	5152084	CHOKE COIL 56MICROH
L211	[illegible]152092	PEAKING COIL 220MICROH
L212	5152082	CHOKE COIL 39MICROH
L213	5152083	CHOKE COIL

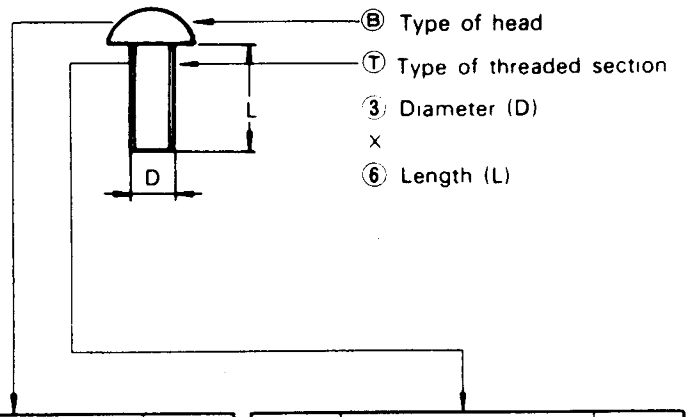
SYMBOL-NO	P-NO	DESCRIPTION
L214	5152098	CHOKE COIL 680MICROH
L215-216	5152092	PEAKING COIL 220MICROH
L217	5152099	CHOKE COIL 820MICO H+-10%
L218	5152089	PEAKING COIL 150MICROH
L219	5152092	PEAKING COIL 220MICROH
L220	5152074	CHOKE 10MICROH
L221	5152082	CHOKE COIL 39MICROH
L353	5152097	CHOKE COIL 560MICRO H
L401	5150366	CHOKE COIL 15 MH
L402	5150362	CHOKE COIL
L404	5152099	CHOKE COIL 820MICO H+-10%
		CRYSTALS
X201	5780534	CRYSTAL 4.435572MHZ
X501	5780492	CRYSTAL 32KHZ
		MISCELLANEOUS
	5679901	JACK PLATE
	5720174	FUSE 630MA
	5722131	1P FUSE HOLDER
	5722211	FUSE HOLDER
	6746881	FUSE COVER
	6755481	IC HOLDER
	6863631	I.R RECEIVER CAP
	6864041	BATTERY CASE
	6864241	CAP
	6865851	GUIDE PIECE
	6865991	HOLDER
	7373262	CAP
	7375642	HOLDER-JACK PLATE
	7485491	SHIELD PANEL-RMR
	7758881	INSULATION SHEAT-RMR
B501-502	5060037	RESISTOR PACK
CE01401	5780671	CERAMIC OSCILLATOR 455 KHZ
CP401	5260392	OSC BLOCK
DG101	5310751	TIMER DISPLAY
FU152	5721064	FUSE 2.5A
FU153	5721061	FUSE 1.6A
J1251	5653441	6P DIN SOCKET
PV701	5008871	PRESET VARIABLE RESISTOR
RC1795	5260871	OSC. BLOCK
RL401-402	5641413	RELAY
S091	5623573	SWITCH
S101-102	5633791	SWITCH
S104-109	5633784	SWITCH
S112	5622191	SLIDE SWITCH
S113	5633784	SWITCH
S121C-121J	5633783	SWITCH (CH)
S141-142	5633362	PUSH SWITCH
S143	5625061	SWITCH
S151	5602091	MAIN SWITCH
S3001	5633792	PUSH SWITCH
S3002	5633791	SWITCH
S3004-3007	5633961	PUSH SWITCH

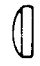
SYMBOL-NO	P-NO	DESCRIPTION
S601	5612483	SWITCH
S702	5633693	SWITCH
S703	5621211	SLIDE SWITCH
3009-3012	5633961	PUSH SWITCH

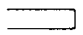
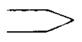
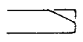
EXPLODED VIEWS

SCREW CLASSIFICATION

Example: BT3 × 6



Abbre-viation	Name	Shape
No symbol	Brazier head	
P	Pan head	
B	Binding head	
O	Oval countersunk head	
F	Flat countersunk head	

Abbre-viation	Name	Shape
No symbol	Machine (clamps without tapping)	
t	Tapping (clamps with tapping) Type 1	
T	Tapping (clamps with tapping) Type 2	
f	Forming tight (for metal)	
Note	Since the forming tight screw tightens while self-tapping machine screws can be replaced by tapping screws	

Washers and Nuts

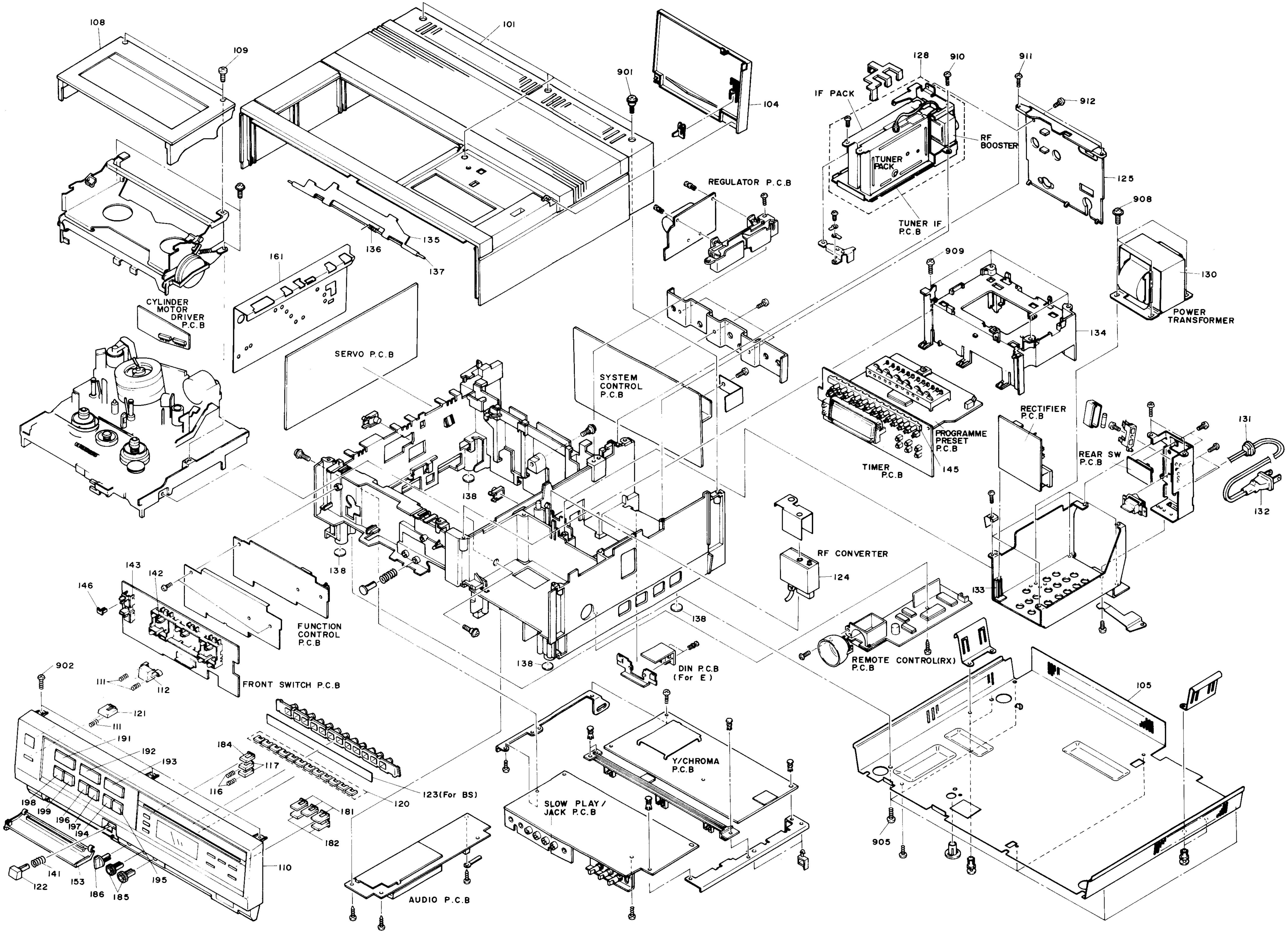
Abbre-viation	Name	Shape
W SW LW	Washer Spring washer Locking washer	
E	E-ring	
N	Nut	
Note	Internal dia is indicated for nuts and washers	

LUBRICATION

Lubrication points are shown in the exploded view diagrams by marks as follows.

Ⓢ Sonic slider oil (# 1600)
Ⓗ Hitazol (MO-138)
Ⓕ Froil (GB-TS-1)
Ⓟ Pan motor oil

CABINET SECTION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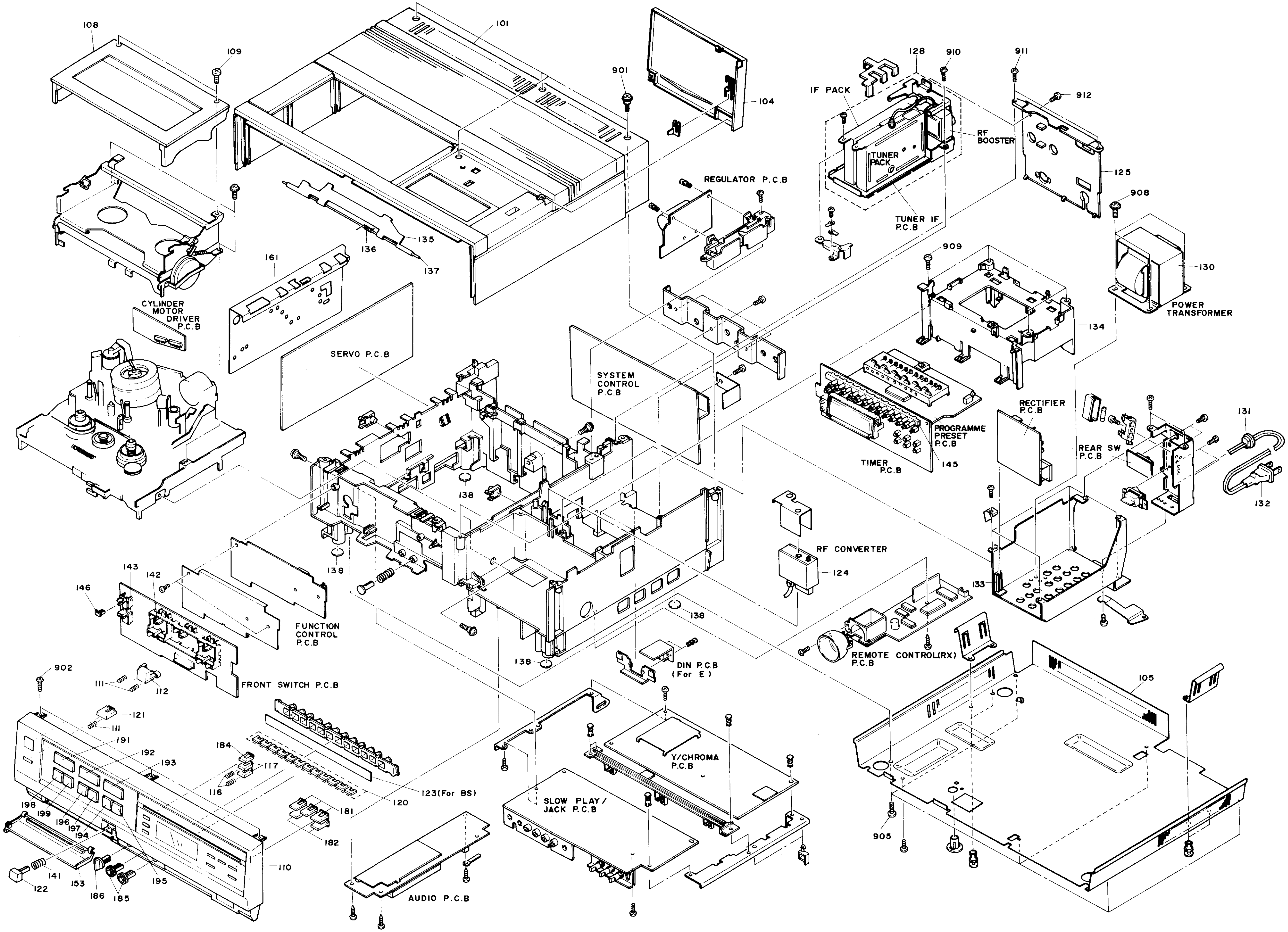
109
101
901
104
128
910
911
912
IF PACK
RF BOOSTER
TUNER PACK
125
REGULATOR P.C.B
TUNER IF P.C.B
908
135
136
137
161
909
130
POWER TRANSFORMER
CYLINDER MOTOR DRIVER P.C.B
SERVO P.C.B
134
SYSTEM CONTROL P.C.B
PROGRAMME PRESET P.C.B
RECTIFIER P.C.B
131
REAR SW P.C.B
TIMER P.C.B
145
138
132
RF CONVERTER
124
143
146
142
138
FUNCTION CONTROL P.C.B
133
138
138
DIN P.C.B (For E)
REMOTE CONTROL(RX) P.C.B
902
111
112
FRONT SWITCH P.C.B
105
121
111
191
192
193
184
117
116
123(For BS)
120
Y/CHROMA P.C.B
SLOW PLAY / JACK P.C.B
181
182
198
199
196
197
194
141
153
122
186
185
195
110
AUDIO P.C.B
905

CABINET SECTION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901
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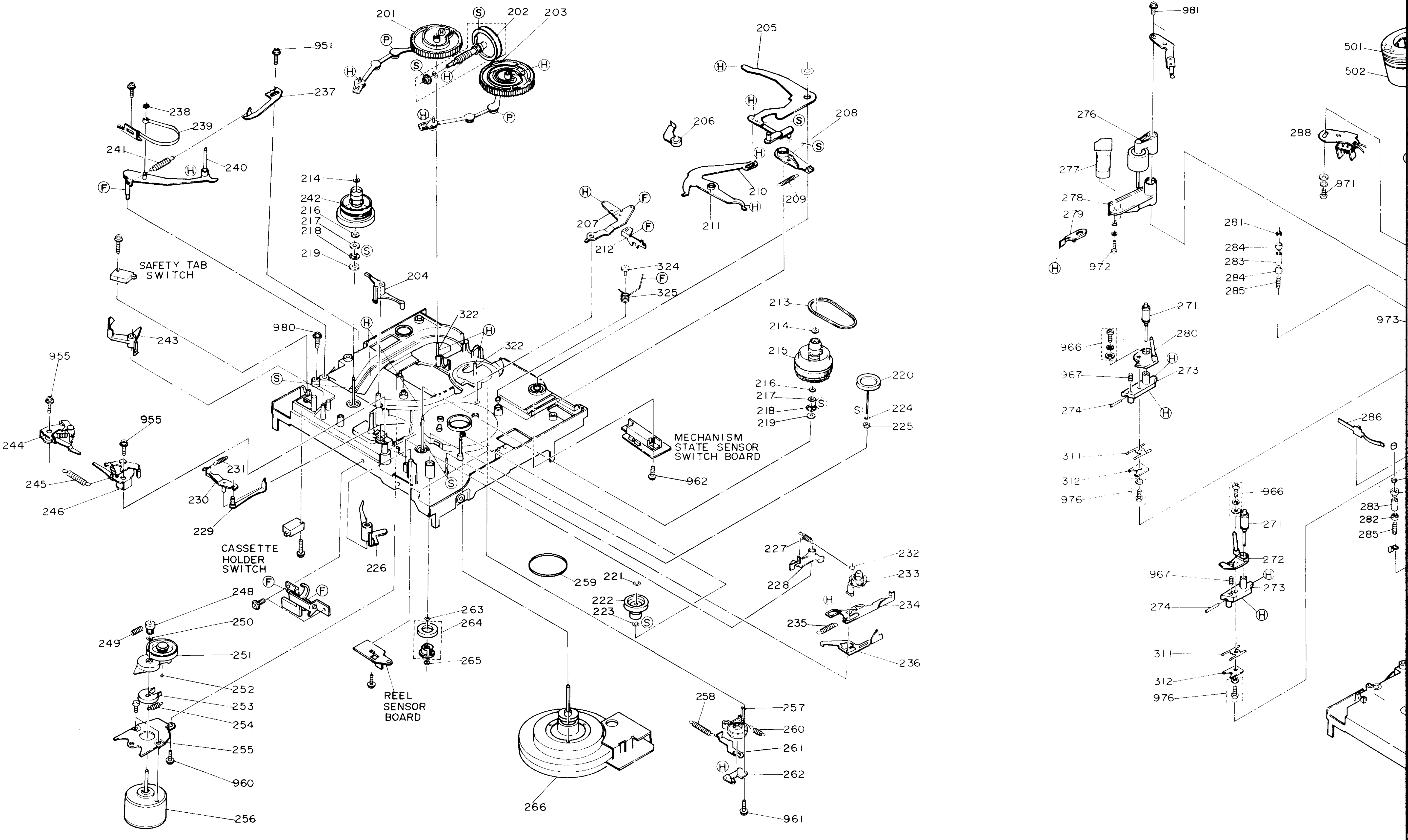
911
912
IF PACK
RF BOOSTER
TUNER PACK
TUNER IF P.C.B
125
908
REGULATOR P.C.B
135
136
137
161
CYLINDER MOTOR DRIVER P.C.B
SERVO P.C.B
SYSTEM CONTROL P.C.B
909
130
POWER TRANSFORMER
134
PROGRAMME PRESET P.C.B
145
TIMER P.C.B
RECTIFIER P.C.B
REAR SW P.C.B
131
132
138
138
138
138
RF CONVERTER
124
133
143
142
146
FUNCTION CONTROL P.C.B
FRONT SWITCH P.C.B
DIN P.C.B (For E)
REMOTE CONTROL(RX) P.C.B
105
902
111
112
121
111
191
192
193
184
117
116
120
123(For BS)
198
199
196
197
194
181
182
Y/CHROMA P.C.B
SLOW PLAY / JACK P.C.B
905
141
122
153
186
185
195
110
AUDIO P.C.B

MECHANISM ASSEMBLY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218
219
204
SAFETY TAB SWITCH
324
325
213
215
220
224
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980
322
955
243
244
245
246
231
230
229
CASSETTE HOLDER SWITCH
226
MECHANISM STATE SENSOR SWITCH BOARD
962
227
232
233
228
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223
248
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252
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254
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960
256
263
264
265
REEL SENSOR BOARD
266
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257
260
261
262
961
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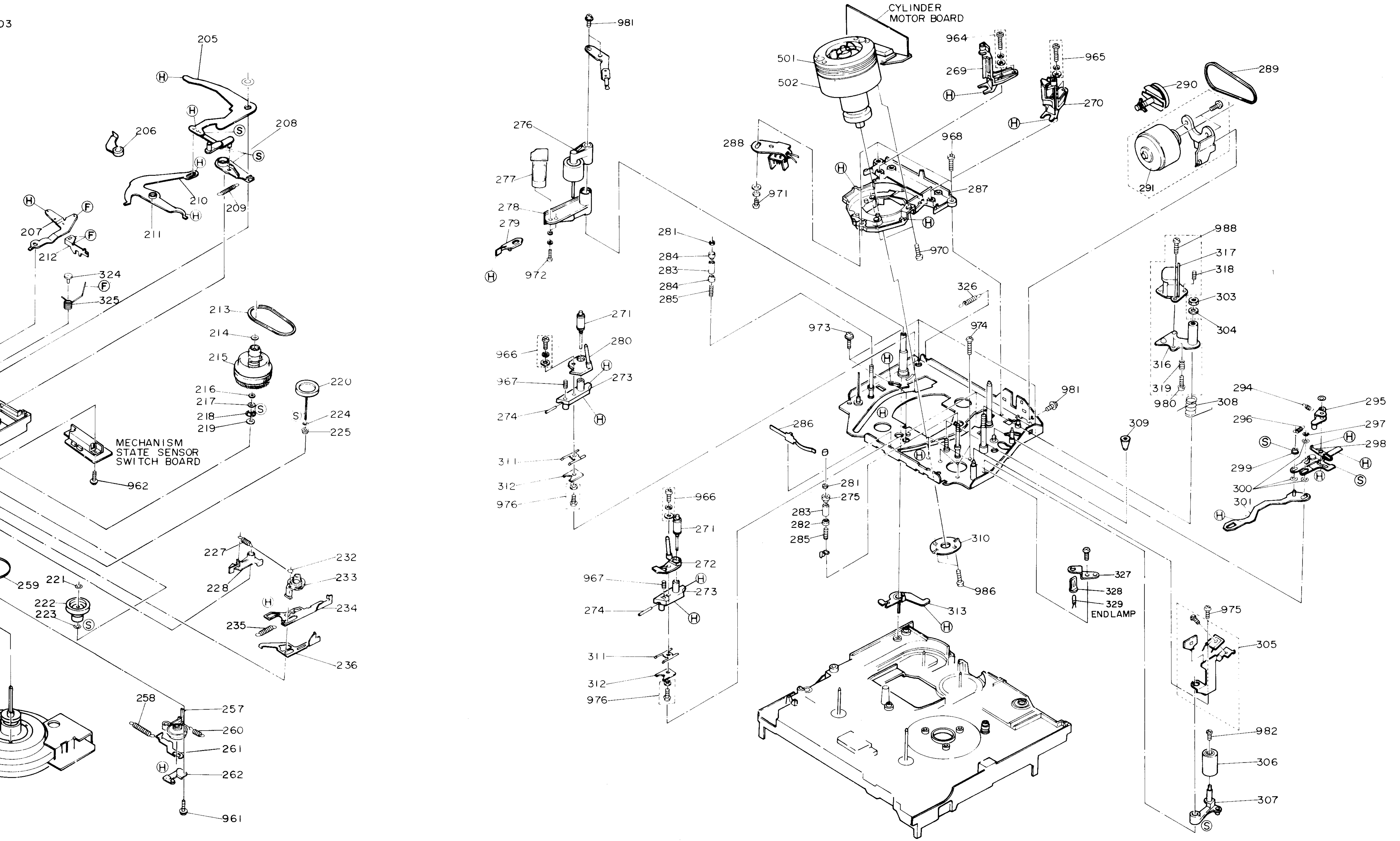
H
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F
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S1
MECHANISM
STATE SENSOR
SWITCH BOARD
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H
H
CYLINDER
MOTOR BOARD
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ENDLAMP
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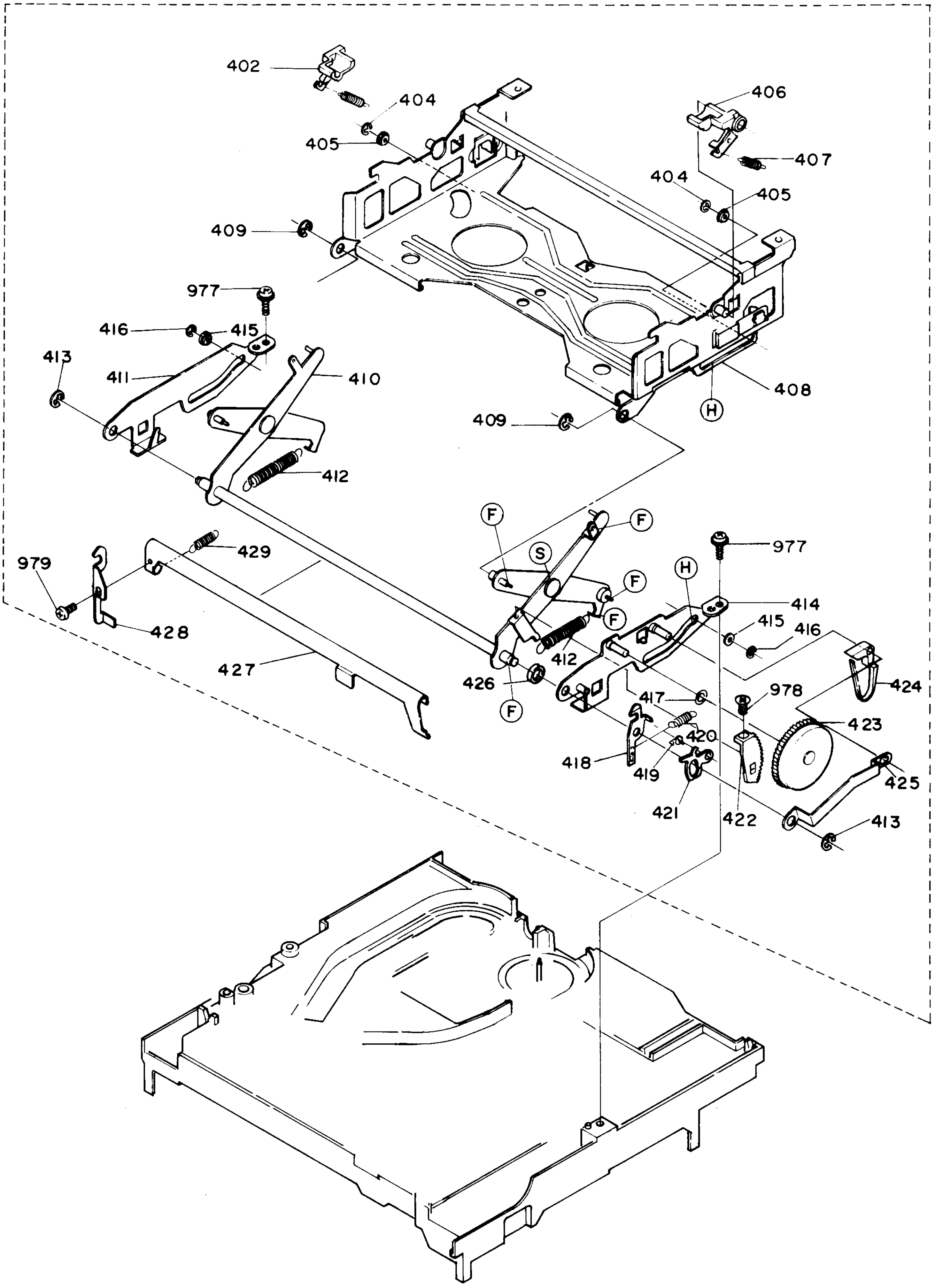
S

CASSETTE HOLDER SECTION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424
423
425
413

REPLACEMENT PARTS LIST

MECHANICAL PARTS

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6108632	TOP CASE(E)
	6108631	TOP CASE ASSEMBLY(BS)
104	6099751	PRE-SET DOOR(E)
	6099754	PRESET DOOR(BS)
105	7375151	UNDER COVER(E)
	7375154	UNDER COVER(BS)
108	6093913	CASSETTE LID
109	7547744	SPECIAL SCREW
110	6225494	FRONT PANEL(E)
	6225495	FRONT PANEL(BS)
111	6305564	SPRING
112	6056301	POWER BUTTON (POWER)
116	6305564	SPRING
117	6056791	RESET BUTTON (CT/CLK)
120	6056272	BUTTON (CHANNEL)(E)
	6056273	CHANNEL BUTTON (CHANNEL)(BS)
121	6056311	TIMER BUTTON
122	6056351	EJECT BUTTON(E)
	6056353	EJECT BUTTON (BS)
123	4612661	CHANNEL CARD E(BS)
124	5585702	RF CONVERTER
125	6865466	REAR JACK PLATE
128	7084327	VTR FRONT END ASSEMBLY(E)
	7084326	TUNER.IF BLOCK(BS)
130	5213171	POWER TRANSFORMER(E)
	5213172	POWER TRNSFORMER(BS)
131	6794091	BUSHING
132	5746157	POWER CORD(E)
	5746342	POWER CORD(BS)
133	6863331	P.C.B GUIDE
134	6865442	TIMER HOLDER
135	6093372	CASSETTE DOOR
136	6546671	SPRING
137	7551341	SHAFT
138	7740662	FELT-LEG
141	6305565	SPRING
142	6865421	LED HOLDER
143	6865411	LED HOLDER
145	6865362	HOLDER-CH.LED
146	6865391	SWITCH CAP
153	6865931	JACK PLATE DOOR
161	7757814	COVER
181	6056801	TIME SET BUTTON
182	6056802	TIME SET BUTTON
184	6056792	RESET BUTTON (MEMORY)
185	6284111	TRACKING KNOB
186	6284122	KNOB (MODE)
191	6056321	CONTROL BUTTON (REC)
192	6056322	CONTROL BUTTON (PLAY)
193	6056323	CONTROL BUTTON (STOP)
194	6056331	CONTROL BUTTON (REW)
195	6056332	CONTROL BUTTON (FF)
196	6056333	CONTROL BUTTON (R.SEARCH)
197	6056334	CONTROL BUTTON (F.SEARCH)
198	6056342	CONTROL BUTTON (PAUSE)
199	6056341	CONTROL BUTTON (DUB)
201	6861427	LOADING GEAR
202	6861396	LOADING WORM
203	6861429	LOADING GEAR
204	6861063	SUB BRAKE
205	7372541	ARM
206	6861181	SUB BRAKE ARM
207	7372511	SWITCH BRACKET
208	6861091	SPRING
209	6301396	SPRING
210	7372092	ARM
211	6861121	SPACER
212	7372002	SLIDER
213	6354231	TAKE UP BELT
214	7778859	POLYSLIDER WASHER
215	6414312	TAKE-UP REEL TABLE ASSEMBLY
216	7786216	POLYSLIDER WASHER
217	7787031	THRUST SUPPORT
218	6750441	RETAINER
219	7787031	THRUST SUPPORT
220	6421904	PULLEY
221	7778859	POLYSLIDER WASHER
222	6345151	PULLEY
223	7786178	POLYESTER WASHER
224	7778855	POLY SLIDER WASHER
225	0945039	BEARING-2MM
226	6861212	FF/REW ARM
227	6318926	SPRING
228	6861142	EJECT INHIBITING ARM
229	7372442	BRAKE LINK
230	6861174	BRAKE ARM
231	6300602	SPRING
232	7778859	POLYSLIDER WASHER
233	6861481	PLAY IDLER ASSEMBLY
234	7372144	SLIDER B
235	6541902	SPRING
236	7372131	SLIDER A
237	7373781	PLATE
238	7778395	E RING
239	7374694	TENSION BAND
240	7373731	TENTION ARM
241	6541752	SPRING
242	6414302	SUPPLY REEL TABLE ASSEMBLY
243	6860993	RECORDING PREVENTION ARM
244	7372421	BRAKE ARM (LEFT)
245	6301634	SPRING
246	7372431	BRAKE ARM (RIGHT)
248	6345173	FF/REW PULLEY
249	7773089	SCREW 3MMDX4MM
250	7786178	POLYESTER WASHER
251	6861471	FF/REW IDLER
252	0948492	BALL - 2MMD
253	6861301	FF/REW ARM
254	6541881	SPRING
255	7373684	MOTOR BRACKET ASSEMBLY
256	5577292	REEL MOTOR

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
257	6861505	FS BRAKE ASSEMBLY
258	6542031	SPRING
259	6355291	BELT
260	6541891	SPRING
261	7372032	SLIDER
262	6862331	HOLDER
263	7778855	POLY SLIDER WASHER
264	6861451	MAGNET PULLEY
265	7778859	POLYSLIDER WASHER
266	5577323	CAPSTAN MOTOR
268	5792001	BRUSH
269	6861353	CATCHER (SUPPLY)
270	6861362	CATCHER (TAKE-UP)
271	6344252	GUIDE ROLLER SHAFT
272	6977181	TILT POLE (TAKE-UP)
273	6977152	GUIDE ROLLER BASE
274	7544352	LOCK SHAFT
275	7598461	GUIDE FLANGE
276	6861442	IMPEDANCE ARM
277	5448502	FULL ERASE HEAD
278	6861222	HEAD ARM
279	6861103	TENSION ARM OPERATION
280	6977171	TILT POLE (SUPPLY)
281	6821114	3D NUT
282	7550352	GUIDE FRANGI
283	7575242	TAPE GUIDE
284	7543831	GUIDE FRANGI
285	6304903	SPRING
286	6535622	SPRING
287	6977211	CYLINDER BASE
288	5448562	HEAD
289	6355282	BELT
290	6861433	PULLEY
291	5577281	LOADING MOTOR
294	6301371	SPRING
295	7373511	BRAKE LEVER
296	6319001	LOCK SPRING B
297	7778395	E RING
298	7372484	BRAKE SLIDER
299	7571111	COLLAR
300	7786216	POLYSLIDER WASHER
301	7372382	BRAKE SLIDER
303	6821114	3D NUT
304	7787031	THRUST SUPPORT
305	0170284	DEW SENSOR
306	6383762	PRESSURE ROLLER ASSEMBLY
307	6977142	PRESSURE ROLLER
308	6546551	SPRING
309	7549271	X-ADJUST SCREW
310	7373394	M.PLATE
311	6329861	SPRING
312	7317942	LIMIT PLATE
313	7372471	IMPEDANCE OPERATING ARM
316	7372502	HEAD BASE
317	5448653	ACE HEAD
318	7586681	SCREW
319	6304901	SPRING
322	7551011	GEAR SHAFT
324	6794371	BUSH
325	6546852	SPRING
326	6300742	SPRING
327	7373791	LAMP BRACKET
328	6750581	LAMP HOLDER
329	5767131	LAMP
330	6863204	EJECT PIECE1
402	6861011	LOCK ARM (LEFT)
404	7773394	E RING 1.5MMD
405	6344381	ROLLER
406	6861001	LOCK ARM (RIGHT)
407	6540663	SPRING
408	7372322	CASSETTE UP ASSEMBLY
409	7230902	E RING
410	7372862	HOLDER LINK
411	7373841	HOLDER BRACKET(LEFT)
412	6541491	SPRING
413	7230902	E RING
414	7372234	HOLDER BRACKET (RIGHT)
415	6344381	ROLLER
416	7778394	E RING 1.5MMD
417	7778843	WASHER
418	7373941	LOCK ARM (RIGHT)
419	6546443	SPRING
420	6324439	SPRING
421	7371732	SHAFT HOLDER
422	6431032	GEAR
423	7372204	DUMPER ASSEMBLY
424	6860932	ARM
425	7373342	DUMPER HOLDER
426	7779872	WASHER
427	7373921	SYNCRO PLATE
428	7373931	LOCK ARM (LEFT)
429	6324439	SPRING
501	5458161	UPPER CYLINDER
502	6993021	LOWER CYLINDER
901	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
902	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
905	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
906	8745406	BINDING SCREW - 3MMD x 6MM
908	8660606	4X6 PW SCREW
909	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
910	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
911	8699410	BT BIND HEAD SCREW-3MMDX10MM (BLACK)
912	8698408	SCREW (DT3X8)
951	7781134	BINDING SCREW
954	8741412	SCREW (B3X12)
955	7781134	BINDING SCREW
958	7781133	BT SCREW-3MMD
960	7781133	BT SCREW-3MMD
961	7781133	BT SCREW-3MMD
962	7781132	BT SCREW
964	8652408	SCREW (PSW3X8)
965	8652408	SCREW (PSW3X8)
966	8652408	SCREW (PSW3X8)
967	7773087	SET SCREW
968	8650408	SCREW
970	**8741408**	**SCREW (B3X8)**
971	**8652408**	**SCREW (PSW3X8)**

SYMBOL-NO	P-NO	DESCRIPTION
972	**8652105**	**SCREW (PSW2X5)**
973	**7781133**	**BT SCREW-3MMD**
974	**0741304**	**BIND SCREW-2.6MMDX4MM**
975	**8741404**	**BIND SCREW-3MMDX4MM**
976	**8650404**	**SCREW (PSW3X6)**
977	**7781132**	**BT SCREW**
978	**0721305**	**FLAT SCREW 2.6MMD X 5MM**
979	**8741404**	**BIND SCREW-3MMDX4MM**
980	7781134	BINDING SCREW
981	8652406	SCREW (PSW3X6)
982	8660406	SCREW (PW3X6)
936	8741404	BIND SCREW-3MMDX4MM
988	7781872	SCREW-3MMDX8MM
989	8741412	SCREW (B3X12)
		FOR ACCESSARIES
	5639591	WIRELESS REMOTE CONTROL BOX
	5898871	CONNECTOR CORDE